

Giovanni Crupi

CURRICULUM VITAE

14/11/2026

INFORMAZIONI PERSONALI

Nome Cognome	Giovanni Crupi
Luogo di nascita	Lamezia Terme (CZ), Italia
Data di nascita	15/09/1978
Codice fiscale	CRPGNN78P15M208M
Impiego attuale	Professore Ordinario
Afferenza	Dipartimento BIOMORF, Università degli Studi di Messina, Messina, Italia
Telefono	+39-338-3179173
E-mail	crupig@unime.it
Contatto Skype	giocrupi
Contatto LinkedIn	www.linkedin.com/in/GiovanniCrupi
Sito web	https://unime.unifind.cineca.it/get/person/029881

ISTRUZIONE E FORMAZIONE

15/12/2006	Dottorato di Ricerca in “Tecnologie Avanzate per l'Optoelettronica e la Fotonica e Modellizzazione Elettromagnetica” (XIX ciclo), Università degli Studi di Messina Titolo della tesi: “Characterization and modelling of advanced GaAs, GaN and Si microwave FETs” Relatori: Prof. A. Caddemi (Università degli Studi di Messina, Italia) Prof. D. M. M.-P. Schreurs (Katholieke Universiteit Leuven, Belgio)
15/04/2003	Laurea in “Ingegneria Elettronica” con votazione di 110/110 e lode, Università degli Studi di Messina Titolo della tesi:“Caratterizzazione di pHEMT a microonde e modellistica per piccoli segnali da estrazione diretta” Relatori: Prof. A. Caddemi, Prof. N. Donato (Università degli Studi di Messina, Italia)
08/1997	Diploma di maturità classica con votazione di 60/60 presso il Liceo Classico-Ginnasio “Pitagora” di Crotone, Italia

ABILITAZIONE SCIENTIFICA NAZIONALE (ASN)

28/08/2018	Conseguimento dell’abilitazione scientifica nazionale (ASN 2016) a professore di I Fascia nel settore scientifico concorsuale 09/E3 - “Elettronica” nel V Quadrimestre della tornata 2016
04/02/2014	Conseguimento dell’abilitazione scientifica nazionale (ASN 2012) a professore di II Fascia nel settore scientifico concorsuale 09/E3 - “Elettronica” nel I Quadrimestre della tornata 2012

ESPERIENZE PROFESSIONALI

07/01/2025-presente	Professore Ordinario, Dipartimento BIOMORF, Università degli Studi di Messina
30/12/2017-06/01/2025	Professore Associato, Dipartimento BIOMORF, Università degli Studi di Messina
01/01/2015-29/12/2017	Ricercatore RTD-B, Dipartimento BIOMORF, Università degli Studi di Messina
01/06/2013-31/12/2014	Ricercatore RTD-A, Dipartimento DICIEAMA, Università degli Studi di Messina
02/05/2012-01/05/2013	Assegno di ricerca, Dipartimento di Fisica della Materia e Ingegneria Elettronica, Università degli Studi di Messina Responsabile scientifico: Prof. Alina Caddemi
01/09/2011-01/03/2012	Contratto di collaborazione coordinata e continuativa, Dipartimento di Ingegneria, Università degli Studi di Ferrara Responsabile scientifico: Prof. Giorgio Vannini
05/09/2007-04/09/2010	Contratto Giovani Ricercatori, attivato sul Progetto FIRB "Metodologie e Tecnologie Innovative per Radar Avionici con Antenna a Scansione Elettronica (IMT ARSEL)", Dipartimento di Fisica della Materia e Ingegneria Elettronica, Università degli Studi di Messina Responsabile scientifico: Prof. Alina Caddemi
01/08/2006-15/07/2007	Contratto di ricerca come Scientific Researcher con la Katholieke Universiteit Leuven, nell'ambito del progetto "Nano-RF", Progetto UE VI Programma Quadro, per svolgere attività di ricerca presso la Katholieke Universiteit Leuven in collaborazione con l'Interuniversity Microelectronics Center (IMEC), Leuven, Belgio Tematica di ricerca: Modellistica a piccolo ed ampio segnale di transistor e varactor basati su FinFET Responsabile scientifico: Prof. Dominique Schreurs
23/06/2009-02/07/2009	Visiting Scientist, Warsaw University of Technology, Varsavia, Polonia Tematica di ricerca: Modellistica di rumore di transistor avanzati a microonde Responsabile scientifico: Dr. Wiatr Wojciech
15/03/2010-14/05/2010 01/11/2008-30/11/2008 01/01/2008-29/02/2008 01/02/2006-31/07/2006	Visiting Scientist, Katholieke Universiteit Leuven in collaborazione con l'Interuniversity Microelectronics Center (IMEC), Leuven, Belgio Tematica di ricerca: Modellistica a piccolo ed ampio segnale di transistor avanzati a microonde Responsabile scientifico: Prof. Dominique Schreurs
01/09/2005-31/12/2005 01/05/2005-30/06/2005	Visiting Scientist, Katholieke Universiteit Leuven in collaborazione con l'Interuniversity Microelectronics Center (IMEC), Leuven, Belgio Nell'ambito del progetto "Top Amplifier Research Groups in a European Team (TARGET)", Rete di Eccellenza, Progetto UE VI Programma Quadro Tematica di ricerca: Modellistica a piccolo ed ampio segnale di GaN HEMTs Responsabile scientifico: Prof. Dominique Schreurs

ATTIVITÀ DIDATTICA

2015/2016-2026/2027	"Elettronica" (SSD ING-INF/01, 1 CFU) del corso integrato di "Esame Teorico Pratico I Anno", Scuola di Specializzazione in "Medicina Nucleare", Università degli Studi di Messina
2022/2023-2026/2027	"Fondamenti di Elettronica" (SSD ING-INF/01, 9 CFU), Corso di Laurea Triennale in "Ingegneria Biomedica", Università degli Studi di Messina
2020/2021-2026/2027	"Principi e Applicazioni di Optoelettronica" (SSD ING-INF/01, 6 CFU), Corso di Laurea Magistrale in "Bioingegneria" (dal 2025/2026) e Corso di Laurea Magistrale in "Ingegneria Elettronica per l'Industria", Università degli Studi di Messina
2025/2026	"Elettronica per la Bioingegneria" (SSD ING-INF/01, 1 CFU), Dottorato di Ricerca in "Bioengineering Applied to Medical Sciences", Università degli Studi di Messina

2019/2020-2021/2022 2023/2024	“Dispositivi Elettrici ed Elettronici - Modulo B” (SSD ING-INF/01, 1 CFU), Dottorato di Ricerca in “Bioengineering Applied to Medical Sciences”, Università degli Studi di Messina
2019/2020-2024/2025	“Informatica” (SSD INF/01, 2 CFU) del corso integrato di “Scienze Propedeutiche di Base”, Corso di Laurea Triennale in “Tecnica della Riabilitazione Psichiatrica”, Università degli Studi di Messina
2022/2023-2024/2025	“Informatica” (SSD INF/01, 2 CFU) del corso integrato di “Scienze Propedeutiche”, Corso di Laurea Triennale in “Tecniche di Radiologia Medica, per Immagini e Radioterapia”, Università degli Studi di Messina
2022/2023	“Informatica” (SSD INF/01, 1 CFU) del corso integrato di “Scienze Statistiche Propedeutiche”, Corso di Laurea Magistrale in “Scienze delle Professioni Sanitarie Tecniche Diagnostiche”, Università degli Studi di Messina
2022/2023	“Informatica” (SSD INF/01, 1 CFU) del corso integrato di “Scienze Statistiche per la Gestione Sanitaria”, Corso di Laurea Magistrale in “Scienze delle Professioni Sanitarie Tecniche Diagnostiche”, Università degli Studi di Messina
2017/2018-2021/2022	“Bioingegneria Elettronica e Informatica” (SSD ING-INF/06, 2 CFU) del corso integrato di “Scienze Interdisciplinari e del Management Sanitario”, Corso di Laurea Triennale in “Ortottica e Assistenza Oftalmologica”, Università degli Studi di Messina
2013/2014-2021/2022	“Bioingegneria” (SSD ING-INF/06, 2 CFU) del corso integrato di “Strumenti di Laboratorio ed Elaborazioni Dati”, Corso di Laurea Triennale in “Tecniche di Neurofisiopatologia”, Università degli Studi di Messina
2018/2019-2021/2022	“Bioingegneria Elettronica e Informatica” (SSD ING-INF/06, 3 CFU) del corso integrato di “Metodologia della Ricerca e Riabilitazione”, Corso di Laurea Magistrale in “Scienze Riabilitative delle Professioni Sanitarie”, Università degli Studi di Messina
2021/2022	“Wireless Technologies” (SSD ING-INF/01, 6 CFU), Corso di Laurea Magistrale in “Engineering and Computer Science”, Università degli Studi di Messina
2015/2016-2020/2021	“Laboratory of Wireless Technologies” (SSD ING-INF/01, 6 CFU), Corso di Laurea Magistrale in “Engineering and Computer Science”, Università degli Studi di Messina
2010/2011, 2014/2015	“Elettronica delle Microonde” (SSD ING-INF/01, 6 CFU), Corso di Laurea Magistrale in “Ingegneria Elettronica”, Università degli Studi di Messina
2012/2013	“Progettazione e Laboratorio” (SSD ING-INF/01, 130 ore), Master Universitario di II livello in “Micro and Nanotechnologies for Extra High Frequency - MINTEHF”, Università degli Studi di Messina
2009/2010	“Optoelettronica” (SSD ING-INF/01, 6 CFU), Corso di Laurea Magistrale in “Ingegneria Elettronica”, Università degli Studi di Messina
2007/2008	“Fondamenti di Elettronica” (SSD ING-INF/01, 33 ore), Master Universitario di I livello in “Meccatronica per le Nuove Attività Produttive - MECAP”, Università degli Studi di Messina

ATTAVITÀ IN AMBITO ACCADEMICO

02/2024-presente	Coordinatore della Commissione AQ-RDTM (di Assicurazione della Qualità per la Ricerca e la Terza Missione Dipartimentale) del Dipartimento BIOMORF, Università degli Studi di Messina
11/2024-presente	Vice-coordinatore del Corso di Laurea Triennale in “Ingegneria Biomedica”, Università degli Studi di Messina
03/2022-presente	Componente della Commissione AQ-RDTM (di Assicurazione della Qualità per la Ricerca e la Terza Missione Dipartimentale) del Dipartimento BIOMORF, Università

degli Studi di Messina

07/2024-04/2026	Componente del Comitato Tecnico Scientifico (CTS) per il Macrosettore ERC "Scienze della Vita" (LS) per le attività di valutazione previste per i progetti PRIN 2022 PNRR, Università degli Studi di Messina
02/2023-12/2024	Componente della Commissione Paritetica Docenti-Studenti (CPDS) del Dipartimento BIOMORF per il biennio 2022/2024, Università degli Studi di Messina
12/2018-12/2024	Componente della Giunta del Dipartimento BIOMORF per i trienni 2018/2021 e 2021/2024, Università degli Studi di Messina
05/2021-presente	Componente del Gruppo AQ (di Assicurazione della Qualità) per il Corso di Laurea Triennale in "Ingegneria Biomedica," Università degli Studi di Messina
11/2024-presente	Referente per la mobilità internazionale per il Corso di Laurea Magistrale in "Bioingegneria," Università degli Studi di Messina
11/2021-presente	Referente per la mobilità internazionale per il Corso di Laurea Triennale in "Ingegneria Biomedica," Università degli Studi di Messina
03/2018-11/2021	Referente per la mobilità internazionale per il Corso di Laurea Magistrale Internazionale in "Engineering and Computer Science," Università degli Studi di Messina
11/2019-presente	Componente del Collegio dei docenti del Dottorato di Ricerca in "Bioengineering Applied to Medical Sciences" per i cicli XXXV-XXXXII Università degli Studi di Messina
11/2017-10/2021	Componente del Collegio dei docenti del Dottorato di Ricerca in "Cyber Physical Systems" per i cicli XXXIII e XXXIV, Università degli Studi di Messina
2026	Valutatore esterno della tesi di dottorato di Amartya Paul, Dottorato di Ricerca presso il Department of Electronics and Communication Engineering, National Institute of Technology (NIT) Meghalaya, Laitumkhrah. Shillong, India
2025/2026	Valutatore esterno della tesi di dottorato di Ifra Saeed, Dottorato di Ricerca XXXVIII ciclo in "Fisica e Astronomia" presso l'Università degli Studi di Milano-Bicocca, Italia
2026	Valutatore esterno della tesi di dottorato di Geeta Pattnaik, Dottorato di Ricerca presso il Department of Electronics and Communication Engineering, Institute of Technical Education and Research, Siksha 'O' Anusandhan, Bhubaneswar, Odisha, India
2025	Valutatore esterno della tesi di dottorato di Moupali Roy, Dottorato di Ricerca presso il Department of Electronics and Communication Engineering, National Institute of Technology (NIT) Meghalaya, Laitumkhrah. Shillong, India
2023/2024	Valutatore esterno della tesi di dottorato di Kikuchi Ken, Dottorato di Ricerca XXXVI ciclo in "Engineering Science" presso l'Università degli Studi di Ferrara, Italia
2023/2024	Valutatore esterno della tesi di dottorato di Simone Spataro, Dottorato di Ricerca XXXVI ciclo in "Systems, Energy, Computer and Telecommunication Engineering" presso l'Università di Catania, Italia
2023	Valutatore esterno della tesi di dottorato di A. Benish Chris, Dottorato di Ricerca presso il SRM Institute of Science and Technology (SRMIST), Chennai, India
2022	Valutatore esterno della tesi di dottorato di Pragyey Kumar Kaushik, Dottorato di Ricerca presso il Centre for Applied Research in Electronics (CARE), Indian Institute of Technology Delhi (IITD), India
2019/2020	Valutatore esterno della tesi di dottorato e componente della Commissione giudicatrice per l'esame finale di Xiue Bao, Dottorato di Ricerca in "Engineering" presso la Katholieke Universiteit Leuven, Belgio
2019/2020	Valutatore esterno della tesi di dottorato e presidente della Commissione giudicatrice

per l'esame finale di Giovanni Gugliandolo, Dottorato di Ricerca XXXII ciclo in "Metrology" presso il Politecnico di Torino, Italia

2017/2018 Valutatore esterno della tesi di dottorato di Francesco Trevisan, Dottorato di Ricerca XXX ciclo in "Engineering Science" presso l'Università degli Studi di Ferrara, Italia

2017/2018 Valutatore esterno della tesi di dottorato di Ahsin Murtaza Bughio, Dottorato di Ricerca XXX ciclo in "Electronic Engineering" presso il Politecnico di Torino, Italia

PROGETTI DI RICERCA

10/2022-03/2026 Task Leader per il Task 3.4 "Innovative Wearable Sensors Design, Development and Characterization", componente del Task 3.2 "Advanced BioChip Design, Development and Characterization" e componente del Task 6.2 "Sensors and Systems for Smart Monitoring and Fruition of Cultural Heritage Sites" nell'ambito del Progetto SAMOTHRACE – "SiciliAn MicronanOTecH Research And innovation CEnter" finanziato dal PNRR, Missione 4 "Istruzione e ricerca" - Componente 2 "Dalla ricerca all'impresa"- Investimento 1.5 - D.D.G. MUR 3277 del 30.12.2021 - Ecosistemi dell'Innovazione (ECS00000022). Budget assegnato all'Università di Messina 21.233.853,77 euro – Durata 36 mesi

03/2026 "Finanziamento Attività di Base della Ricerca di Ateneo" (FFABR) Unime 2025 (2.000 euro)

12/2023 "Finanziamento Attività di Base della Ricerca di Ateneo" (FFABR) Unime 2023 (1.500 euro)

12/2021 "Finanziamento Attività di Base della Ricerca di Ateneo" (FFABR) Unime 2021 (1.500 euro)

12/2017 "Fondo di Finanziamento delle Attività Base della Ricerca" (FFABR) 2017, Ministero dell'Istruzione, dell'Università e della Ricerca (3.000 euro)

06/2008 Responsabile del "Progetto Giovani Ricercatori 2005" finanziato dall'Università degli Studi di Messina: "Caratterizzazione e modellistica di HEMT per applicazioni avanzate nel campo delle microonde" (2.000 euro)

05/2005-presente Partecipazione a diversi progetti Italiani ed Europei:
- 2004 "Top Amplifier Research Groups in a European Team (TARGET)", Rete di Eccellenza, Progetto UE VI Programma Quadro (contratto IST-1-507893-NOE) - Durata: 48 mesi
- 2006 "Nano-RF", Progetto UE VI Programma Quadro (contratto IST-027150) - Durata: 36 mesi
- 2006 FIRB Idee Progettuali: "Metodologie e Tecnologie Innovative per Radar Avionici con antenna a Scansione ELettronica (IMT-ARSEL)" cofinanziato dal MIUR (prot. RBIP06R9X5). Budget assegnato all'Università di Messina 309.000 euro - Durata: 40 mesi
- 2006 Progetto "TEMPUS": "Development of Master study programmes in Telecommunications and Control" finanziato dalla Comunità Europea per lo sviluppo e la realizzazione di un ciclo sperimentale di laurea specialistica in Ingegneria delle Telecomunicazioni e Controllo presso l'Università di Nis, Serbia (project JEP 41112 2006). Budget assegnato all'Università di Messina 30.000 euro - Durata: 24 mesi
- 2008 MAE - Progetto Bilaterale di Grande Rilevanza Scientifica Italia-Polonia: "Characterization and modeling of GaN devices for the design of advanced microwave circuits (CMOGAN)", cofinanziato al 50% dal Ministero degli Affari Esteri (Com. Prot.269/P/0127743). Budget assegnato all'Università di Messina 50.000 euro - Durata: 24 mesi
- 2012 P.O.N. "Ricerca e Competitività" 2007-2013 - Asse I - Ob.Oper. 4.1.1.4, Az. I, PON01_01322: "Packaging basato su nanomateriali per ricevitori ed exciter compatti per applicazioni radar con antenna a scansione elettronica del fascio (PANREX)". Budget assegnato all'Università di Messina 1.208.400 euro - Durata: 36 mesi

- 2021 Progetto "TETI - TEcnologie innovative per il controllo, il moniToraggio e la sIcurezza in mare," PON "Ricerca e Innovazione" 2014-2020 - Azione II. 2 Cluster "Sostegno all'innovazione", Area di Specializzazione "Blue Growth" (Codice progetto: ARS01_00333). Budget complessivo 9.086.970,34 euro - Durata: 30 mesi
- 2023 Progetto "LS_TTO NETWORK": "Life Science Italian Technology Transfer Network", nell'ambito del Piano Nazionale per gli investimenti complementari (PNC) al PNRR - Programma "Ecosistema innovativo della Salute" (Codice Progetto: PNC E3-2022-23683268 - CUP: J43C22001490001), finanziato dal Ministero della Salute in collaborazione con l'Ente coordinatore/Hub Centro Cardiologico S.p.A. - Fondazione Monzino. Budget complessivo assegnato all'Università di Messina 450.470,00 euro - Durata: 66 mesi
- 2024 Progetto "COBS4FUN": "Compression Of Biometric Signals for Future Networks applications" (CUP: C49J24000250004) ammesso al finanziamento con DDG n.713 del 04/03/2024 del Politecnico di Torino (Spoke 4 RESTART). Budget assegnato all'Università di Messina 159.706,00 euro - Durata: 18 mesi
- 2025 Progetto "AGRITECH": "National Research Centre for Agricultural Technologies", PNRR - Missione 4, Componente 2, Investimento 1.4 "Potenziamento strutture di ricerca e creazione di 'campioni nazionali di R&S' su alcune Key Enabling Technologies", finanziato dall'Unione Europea – NextGenerationEU (Codice Progetto MUR: AGRITECH – CUP: CN00000022) - Durata: 8 mesi
- 2026 Progetto "HE-LIX": "Heritage Empowerment by Leveraging Innovation and eXchange" (articolato nei sotto-progetti "HE-RMES" e "HE-RA"), PN RIC 2021-2027 (transizione verde e digitale - piattaforma STEP), finanziato dal MUR con D.D. n. 782 del 03/03/2026. Azione 1.1.2 (HE-RMES - CUP: B49H26000450007) e Azione 1.1.3b (HE-RA - CUP: B42F26000290005) in partenariato con la Fondazione SAMOTHRACE e la Fondazione CHANGES. Budget assegnato all'Università di Messina 2.269.999,99 euro - Durata: 24 mesi
- 2026 Progetto "QUANTAS": "QUAntum enabled micro and Nano Technologies for Agriculture and Sustainability" (articolato nei sotto-progetti "SYNERGIA" e "TESLA"), PN RIC 2021-2027 (transizione verde e digitale - piattaforma STEP), finanziato dal MUR con D.D. n. 782 del 03/03/2026. Azione 1.1.2 (SYNERGIA - CUP: B49H26000440007) e Azione 1.1.3b (TESLA - CUP: B42F26000520005) in partenariato con la Fondazione SAMOTHRACE e MUSA S.C.A.R.L. Budget assegnato all'Università di Messina 1.315.501,64 euro - Durata: 24 mesi

PARTECIPAZIONE A CENTRI E CONSORZI INTERUNIVERSITARI

07/2023-presente — Membro dell'Unità di Ricerca dell'Università Studi di Messina del Consorzio Nazionale Interuniversitario per le Telecomunicazioni (CNIT)

09/2023-10/2026 — Rappresentante dell'Università degli Studi di Messina nel Comitato di Gestione del Centro Interuniversitario di Ingegneria delle Microonde per Applicazioni Spaziali (MECSA) per il triennio 2023/25

07/2015-10/2026 — Membro dell'Unità di Ricerca dell'Università Studi di Messina del Centro Interuniversitario di Ingegneria delle Microonde per Applicazioni Spaziali (MECSA)

PARTECIPAZIONE A SOCIETÀ SCIENTIFICHE

05/2012-presente — Chair del programma IEEE MTT-S Graduate Fellowships
Il programma è finalizzato all'assegnazione annuale di 15 prestigiose borse di studio (6000 dollari cadauna oltre 1500 dollari per partecipare alla conferenza IEEE MTT-S IMS) per candidati meritevoli al fine di sviluppare progetti di ricerca nell'ambito di corsi di studio post-laurea nel campo dell'ingegneria elettronica delle microonde. La cerimonia di premiazione "Student Awards Luncheon" si svolge ogni anno negli Stati Uniti in occasione della conferenza IEEE MTT-S International Microwave Symposium (IMS) e l'elenco dei vincitori viene pubblicato sulla rivista IEEE Microwave Magazine

05/2012-presente — IEEE MTT-S Education Committee Member
Il comitato è composto dai maggiori esperti delle Università e delle industrie nel campo dell'ingegneria elettronica delle microonde al fine di offrire varie iniziative per studenti,

avendo come obiettivo quello di promuovere ed incoraggiare la formazione avanzata dei futuri leader nel settore

10/2012-presente IEEE Microwave Theory and Techniques Society (MTT-S) Member

07/2013-presente IEEE Senior Member

10/2012-07/2013 IEEE Member

01/2004-12/2004 IEEE Student Member

PARTECIPAZIONE A COMITATI EDITORIALI DI RIVISTE

09/2012-presente Editor-in-Chief (07/2022-presente), Senior Editor (01/2022-06/2022), Editor (04/2019-12/2021), ed Associate Editor (09/2012-04/2019) della rivista *Wiley International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*

02/2026-presente Editor-in-Chief della rivista *Taylor & Francis International Journal of Optomechatronics*

07/2023-10/2025 Associate Editor della rivista *IEEE Transactions on Electron Devices*

10/2022-12/2024 Associate Editor della rivista *IEEE Microwave and Wireless Technology Letters* previously *IEEE Microwave and Wireless Components Letters*

09/2021-04/2026 Associate Editor della rivista *IEEE Access*

04/2021-presente Editor-in-Chief di Microwave and Wireless Communications Section (02/2023-02/2025) e Section Associate Editor di Microwave and Wireless Communications Section (04/2021-presente) della rivista *MDPI Electronics*

10/2015-12/2022 Associate Editor (10/2017-12/2022), e Member of the Editorial Board (10/2015-10/2017) della rivista *Wiley International Journal of RF and Microwave Computer-Aided Engineering*

01/2022-presente Advisory Editor della rivista *Wiley Engineering Reports*

GUEST EDITOR DI SPECIAL ISSUES DI RIVISTE

09/2021-10/2021 Guest Editors: V. Vadalà, G. Crupi, Special Issue: "Modeling of umWave and mmWave electronic devices for wireless systems: Connecting technologies to applications," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields,* September/October 2021

05/2016 Guest Editors: G. Crupi, P. Colantonio, mini Special issue: "Integrated Nonlinear Microwave and Millimetre-wave Circuits (INMMIC) 2015," *IEEE Transactions on Microwave Theory and Techniques*, May 2016

11/2014 Guest Editors: G. Crupi, A. Raffo, mini Special issue: "Integrated Nonlinear Microwave and Millimetre-wave Circuits (INMMIC) 2014," *IEEE Transactions on Microwave Theory and Techniques*, November 2014

09/2014-12/2014 Guest Editors: G. Crupi, D. M. M.-P. Schreurs, A. Caddemi, Special Issue: "Modeling of high-frequency silicon transistors," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields,* September/December 2014

PREMI

10/2022 "Best Paper Presented by a Young Researcher" per il lavoro "A combined approach using Lorentzian fitting and ANNs for microwave resonator modeling," Z. Marinkovic, G. Gugliandolo, G. Campobello, G. Crupi, N. Donato, *IEEE International Conference*

on Metrology for eXtended Reality, Artificial Intelligence and Neural Engineering (IEEE MetroXRAINE), Rome, Italy, 26-28 October 2022 pp. 608-612.

10/2022 "Best Poster Award" per il lavoro "Salt content detection using a microwave sensor," X. Bao, Z. Wang, J. Bao, G. Gugliandolo, H. Yuan, Z. Zhao, J. Li, N. Donato, G. Crupi, B. Nauwelaers, D. M. M.-P. Schreurs**,** *IEEE International Workshop on Metrology for the Sea* (MetroSea), Milazzo, Italy, 3-5 October 2022, pp. 479-483.

09/2020 "Best Paper Presented by a Young Researcher" per il lavoro "Development and metrological evaluation of a microstrip resonator for gas sensing applications," G. Gugliandolo, D. Aloisio, G. Campobello, G. Crupi, N. Donato, *IMEKO TC-4 International Symposium*, Palermo, Italy, 14-16 September 2020, pp. 1-4.

06/2010 "Outstanding Paper Award" per il lalvoro "Source-pull characterization of FinFET noise," W. Wiatr, G. Crupi, A. Caddemi, A. Mercha, D. M. M.-P. Schreurs, *IEEE International Conference Mixed Design of Integrated Circuits and Systems* (MIXDES), Wrocław, Poland, 24-26 June 2010, pp. 425-430.

07/2005 Premio "Mario Sannino" alla riunione annuale del Gruppo Nazionale di Elettronica per il lavoro "Caratterizzazione completa di GaAs HEMT: prestazioni DC ed LF, parametri di scattering e parametri di rumore e loro dipendenza dalla temperature," A. Caddemi, G. Crupi, N. Donato, F. Catalfamo, *Riunione annuale del Gruppo Elettronica* (GE), Giardini Naxos (ME), Italy, 30 June - 2 July 2005.

05/2004 Premio "Student Travel Grant" da IES Student Activities Committee per partecipare alla conferenza IEEE ISIE 2004 per il lavoro "Bias and temperature dependent modeling of on wafer HEMT's by a direct and fast procedure," G. Crupi, N. Donato, *IEEE International Symposium on Industrial Electronics* (ISIE), Ajaccio, France, 4-7 May 2004, pp. 1543-1548.

PARTECIPAZIONE A COMITATI DI PROGRAMMA DI CONFERENZE

10/2015 Chair del Technical Program Committee della conferenza *IEEE International Workshop on Integrated Nonlinear Microwave and Millimetre-wave Circuits* (INMMiC), Taormina, Italy, 1-2 October 2015

04/2014 Chair del Technical Program Committee della conferenza *IEEE International Workshop on Integrated Nonlinear Microwave and Millimetre-wave Circuits* (INMMiC), Leuven, Belgium, 2-4 April 2014

09/2012-presente Membro del Technical Program Committee della conferenza *IEEE International Workshop on Integrated Nonlinear Microwave and Millimetre-wave Circuits* (INMMiC)

02/2015-presente Membro del Technical Program Committee della conferenza *IEEE International Conference on Advanced Technologies, Systems and Services in Telecommunications* (TELSIKS)

06/2019-presente Membro del Technical Program Committee della conferenza *IEEE International Conference on Integrated Circuits, Technologies and Applications* (ICTA)

08/2023-presente Membro del Technical Program Committee della conferenza *IEEE International Conference on Circuits and Systems* (ICCS)

02/2022-05/2022 Membro del Technical Program Committee della conferenza *IEEE Microwave Mediterranean Symposium* (MMS)

ALTRE ATTIVITÀ ORGANIZZATIVE NELL'AMBITO DI CONFERENZE

10/2022 Local Committee Member, *IEEE International Workshop on Metrology for the Sea* (MetroSea), Milazzo, Italy, 3-5 October 2022

06/2022 Special Sessions Chair, *IEEE International Symposium on Medical Measurements and Applications* (MeMeA), Giardini Naxos-Taormina, Italy, 22-24 June 2022

04/2014 Componente della giuria per l'assegnazione del premio "Best Student Paper Award" sponsorizzato dalla GAAS Association, *IEEE International Workshop on Integrated Nonlinear Microwave and Millimetre-wave Circuits* (INMMiC), Leuven, Belgium, 2-4 April 2014

04/2014 Poster Session Chair, *IEEE International Workshop on Integrated Nonlinear Microwave and Millimetre-wave Circuits* (INMMiC), Leuven, Belgium, 2-4 April 2014

ATTIVITÀ ORGANIZZATIVE NELL'AMBITO DI SESSIONI DI CONFERENZE

10/2022 Chair della Tutorial Session "Seafloor interdisciplinary observatories: A global vision for monitoring underwater processes, and submarine active volcanoes by technological enhancement and new scientific results", *IEEE International Workshop on Metrology for the Sea* (MetroSea), Milazzo, Italy, 3-5 October 2022

06/2022 Chair della Special Session "Advanced Micro Devices and Systems for Next Generation of Miniaturized Neuro-Transducers", *IEEE International Symposium on Medical Measurements and Applications* (MeMeA), Giardini Naxos-Taormina, Italy, 22-24 June 2022

10/2021 Organizzatore e Chair della Special Session "Bioelectronic Applications of RF and Microwaves," *IEEE International Conference on Advanced Technologies, Systems and Services in Telecommunications* (TELSIKS), Nis, Serbia, 20-22 October 2021

10/2019 Organizzatore e Chair della Special Session "Bioengineering Applications of Microwave Techniques," *IEEE International Conference on Advanced Technologies, Systems and Services in Telecommunications* (TELSIKS), Nis, Serbia, 23-25 October 2019

10/2019 Organizzatore e Chair della Special Session "Electromagnetics in Biomedical Applications and Healthcare," *IEEE International Conference on Advanced Technologies, Systems and Services in Telecommunications* (TELSIKS), Nis, Serbia, 23-25 October 2019

05/2019 Organizzatore del Workshop "Advances in Smart Modeling Techniques for Microwave Engineering," *European Microwave Conference in Central Europe* (EuMCE), Prague, Czech Republic, 13-15 May 2019

10/2011 Organizzatore e Chair del Workshop "From De-embedding to Waveform Engineering," *European Microwave Week* (EuMW), Manchester, UK, 9-14 October 2011

10/2008 Session Chair del Workshop "Advances in Characterization and Modeling of Emerging Low-Power and High-Power Devices," *European Microwave Week* (EuMW), Amsterdam, Netherlands, 27-31 October 2008

09/2007 Session Chair, *IEEE International Conference on Telecommunications in Modern Satellite, Cable and Broadcasting Service* (TELSIKS), Nis, Serbia, 26-28 September 2007

LEZIONI E SEMINARI SU INVITO

09/2023 Webinar su invito dal titolo "Connecting technologies to applications for humanity's benefit: GaN HEMT modeling based on microwave and mm-Wave measurements," Workshops on "Evolution of Transistor and Emerging Research Devices" supported by IEEE EDS as part of the "Celebration of 75 Years of Invention of the Transistor," Delhi, India, 21 September 2023

08/2020 Webinar su invito dal titolo "Empowering measurement-based FET models: Going towards higher frequencies," 2020 International Workshop on "(Sub)mmW

Components, Measurement and Applications," China, 10-11 August 2020

02/2007 Lezioni, in aula e laboratorio CAD, tenute su invito presso l'Università di Cantabria in occasione della 3rd TARGET Winter School on "CAD implementation of non-linear device model and advanced measurements," Santander, Spain, 19-23 February 2007 (ISBN 978-84-8102-452-4).
Titolo: "Implementation of Non-Linear Model Based on Lookup Table Approach"

ATTIVITÀ DI REVISORE

In oltre vent'anni di carriera accademica, ha svolto attività di revisore per oltre 80 prestigiose riviste internazionali (tra cui 19 IEEE Transactions/Journals, e numerose riviste per Wiley, Elsevier, Springer Nature, Taylor & Francis, IOP Publishing, IET, Cambridge University Press e MDPI, insieme ad altri principali editori scientifici), per le principali conferenze di settore e per libri internazionali di editori quali Academic Press (Elsevier), Artech House e John Wiley & Sons. Ha inoltre agito come esperto valutatore esterno per progetti di ricerca per conto del CNCS (National Research Council - Consiglio Nazionale delle Ricerche) del governo della Romania, tramite l'agenzia UEFISCDI (The Executive Agency for Higher Education, Research, Development and Innovation Funding – l'Unità Esecutiva per il Finanziamento dell'Istruzione Superiore, della Ricerca, Sviluppo e Innovazione), per conto del SFRS (Science Fund of the Republic of Serbia), per il NIST (National Institute of Standards and Technology, USA) attraverso il Boulder Editorial Review Board (BERB), e per i progetti di ricerca italiani FAR per UniMoRe, oltre ad agire come valutatore per il programma di borse di studio IEEE MTT-S Undergraduate and Pre-Graduate Scholarship Program.

PUBBLICAZIONI

Riviste Internazionali: 214 (9 Editorial, 8 Invited, 6 Feature, 2 Review, 1 Call for Papers, 15 Education News)

- IEEE - Transactions on Microwave Theory and Techniques: 17
- IEEE - Microwave and Wireless Technology Letters: 16
  formerly IEEE - Microwave and Wireless Components Letters
- IEEE - Microwave Magazine: 15
- IEEE - Transactions on Instrumentation and Measurement: 4
- IEEE - Transactions on Computer-Aided Design of Integrated Circuits and Systems: 3
- IEEE - Transactions on Power Electronics: 1
- IEEE - Transactions on Electron Devices: 1
- IEEE - Transactions on Circuits and Systems I: Regular Papers: 1
- IEEE - Transactions on Circuits and Systems II: Express Briefs: 1
- IEEE - Transactions on Aerospace and Electronic Systems 1
- IEEE - Journal of Biomedical and Health Informatics: 1
- IEEE - Open Journal of Circuits and Systems 1
- IEEE - Sensors Journal: 1
- IEEE - Access: 4
- IEEE - Journal of the Electron Devices Society: 3
- IEEE - Instrumentation & Measurement Magazine: 1
- IEEE - Journal of Electromagnetics, RF, and Microwaves in Medicine and Biology: 1
- IEEE - Sensors Letters: 1
- Wiley - International Journal of Numerical Modelling: Electronic Networks, Devices and Fields: 44
- Wiley - Microwave and Optical Technology Letters: 13
- Wiley - International Journal of RF and Microwave Computer-Aided Engineering: 9
- Wiley - International Journal of Circuit Theory and Applications: 2
- Elsevier - Solid-State Electronics: 9
- Elsevier - Microelectronic Engineering: 4
- Elsevier - Microelectronics Journal: 3
- Elsevier - Materials Science in Semiconductor Processing: 1
- Elsevier - Microelectronics Reliability: 1
- Elsevier - AEU - International Journal of Electronics and Communications 1
- IOP Publishing Ltd. - Semiconductor Science and Technology: 2
- IOP Publishing Ltd. - Engineering Research Express: 1
- IET - Electronics Letters: 2
- IET - Circuits, Devices & Systems: 2
- Cambridge University Press - International Journal of Microwave and Wireless Technologies: 1
- MDPI - Electronics: 15
- MDPI - Sensors: 4
- MDPI - Micromachines: 4
- MDPI - Chemosensors: 1
- MDPI - Instruments: 2
- Springer - Silicon: 3
- Springer - Transactions on Electrical and Electronic Materials: 2
- Springer - Journal of Materials Science: Materials in Electronics: 1
- Taylor & Francis - International Journal of Remote Sensing: 1
- Taylor & Francis - International Journal of Electronics: 1
- The Royal Society of Chemistry - Physical Chemistry Chemical Physics: 1
- INOE Publishing House - Journal of Optoelectronics and Advanced Materials: 1
- IMEKO - Acta IMEKO: 3
- Italian Physical Society - Il Nuovo Cimento C 1
- Serbia and Montenegro IEEE MTT-S Chapter - Microwave Review: 3
- University of Belgrade - Journal of Automatic Control: 1
- University of Banja Luka - Electronics: 1
- ISRAMT - International Journal of Microwave and Optical Technology: 1

Conferenze Internazionali: 110 (9 Invited)

- IEEE International Conference on Advanced Technologies, Systems and Services in Telecommunications (TELSIKS): 24
- IEEE International Workshop on Integrated Nonlinear Microwave and Millimetre-wave Circuits (INMMiC): 12
- IEEE International Symposium on Medical Measurement and Applications (MeMeA): 8
- European Microwave Integrated Circuits Conference (EuMIC): 4

- IEEE International Conference on Metrology for eXtended Reality, Artificial Intelligence and Neural Engineering (MetroXRAINE): 4
- IEEE International Scientific Conference on Information, Communication and Energy Systems and Technologies (ICEST): 4
- IEEE International Workshop on Metrology for the Sea (MetroSea): 3
- IEEE Automatic RF Techniques Group Conference (ARFTG) : 3
- International Conference Mixed Design of Integrated Circuits and Systems (MIXDES): 3
- IEEE International Conference on Microelectronics (MIEL): 4
- International Microwave Symposium (IMS): 2
- IEEE Instrumentation and Measurement Technology Conference (IMTC): 2
- IEEE Mediterranean Microwave Symposium (MMS): 2
- IEEE International Workshop on Metrology for AeroSpace (MetroAeroSpace): 2
- IEEE International Conference on Integrated Circuits, Technologies and Applications (ICTA): 2
- IMEKO TC-4 International Symposium: 2
- IEEE MTT-S International Wireless Symposium (IWS): 1
- IEEE United Conference on Millimetre Waves and Terahertz Technologies (UCMMT): 1
- IEEE International Conference on Metrology for Archaeology and Cutural Heritage (MetroArchaeo): 1
- IEEE Symposium on VLSI Technology: 1
- IEEE International Conference on Emerging Electronics (ICEE): 1
- IEEE International Symposium on Industrial Electronics (ISIE): 1
- IEEE International Conference on Microwaves, Radar, and Wireless Communications (MIKON): 1
- IEEE International Workshop on Metrology for Green Technologies, Renewable Energy and Ecological Sustainability (IEEE MetroGREENST): 1
- IEEE International Workshop on Metrology for Living Environment (MetroLivEnv): 1
- IEEE International Conference on Circuits and Systems (ICCS): 1
- IEEE Calcutta Conference (CALCON): 1
- International Symposium on SiO_2 Advanced Dielectrics and Related Devices (SiO2): 1
- International Symposium on Microwave and Optical Technology (ISMOT): 1
- International Conference Semiconductor Dresden (SCD): 1
- European Radar Conference (EuRAD): 1
- Symposium on Neural Network Applications in Electrical Engineering (NEUREL): 1
- AIP Proceeding on the 20th International Conference on Noise and Fluctuations (ICNF): 1
- Conference for Electronics, Telecommunications, Computers, Automatic Control and Nuclear Engineering (ETRAN): 1
- International Conference on Numerical Simulation of Optoelectronic Devices (NUSOD): 1
- International Microwave Symposium (IMS) Workshop on “Parameter Extraction Strategies for Compact Transistor Models”: 1
- Automatic RF Techniques Group Conference (ARFTG) Workshop on “Nonlinear measurements to investigate memory effects of RF transistors and active devices”: 1
- European Microwave Week (EuMW) Workshop on “Advanced in Characterization and Modeling of Emerging Low-Power and High-Power Devices”: 1
- European Microwave Week (EuMW) Workshop on “From De-embedding to Waveform Engineering”: 1
- European Microwave Conference in Central Europe (EuMCE) Workshop on “Advances in Smart Modeling Techniques for Microwave Engineering” : 1
- International Workshop on High Temperature Superconductors in High Frequency and Fields (HTSHFF): 1
- International MOS-AK Meeting: 1
- Materials for Advanced Metalization: 1
- TARGET Winter School on CAD Implementation of Non-Linear Device Model and Advanced Measurements: 1

INDICATORI BIBLIOMETRICI

- **ORCID-ID:** **0000-0002-6666-6812**
- **Numero di pubblicazioni, numero di citazioni, h-index (Scopus):** **302, 4024, 35**
- **Numero di pubblicazioni, numero di citazioni, h-index (ISI Web of Science):** **274, 3307, 32**

PRINCIPLAI TEMATICHE DI RICERCA

- Caratterizzazione/modellistica di dispositivi elettronici a microonde per applicazioni di comunicazione wireless
- Caratterizzazione/modellistica di sensori a microonde per applicazioni di bioingegneria

RIVISTE INTERNAZIONALI

[R214] K. Zhang, **G. Crupi**, A. Raffo, V. Vadalà, G. Bosi, and J. Cai, "Physics-informed neural network based model for GaN HEMTs with temperature dependence," accepted for publication in the *IEEE Transactions on Microwave Theory and Techniques*.

[R213] K. Yu, J. Cai, **G. Crupi**, and S. Chen, "Design of a miniaturized branch-line coupler with pixelated structure," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, vol. 39, no. 5, e70216, September/October 2026.

[R212] L. Arruzzoli, C. Galletta, G. Gugliandolo, M. Latino, **G. Crupi**, C. De Marchis, and N. Donato, "A stand-alone wearable measurement system for continuous hand tremor monitoring," *Sensors*, vol. 26, no. 18, 5949, September 2026.

[R211] J. Jin, **G. Crupi**, T. Zhang, J. Cai, and S. Chen, "Optimization of RF PAs using CNN based surrogate model and genetic optimization algorithm," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, vol. 39, no. 5, e70209, September/October 2026.

[R210] W. Wang, L. He, S. Chen, H. Gu, J. Cai, Z. Zhang, X. Y. Zhou, **G. Crupi**, and G. Wang, "High efficiency multi-band outphasing amplifiers using streamlined impedance synthesis methodology," *IEEE Transactions on Microwave Theory and Techniques*, vol. 74, no. 8, pp. 6727-6741, Aug. 2026.

[R209] Z. Miao, S. Xu, Y. Du, L. Pang, X. Bao, **G. Crupi**, and G. He, "A decade bandwidth SFCW RF front-end with high harmonic suppression," *IEEE Microwave and Wireless Technology Letters*, vol. 36, no. 8, pp. 1353-1356, August 2026.

[R208] B. Jin, Z. Fan, **G. Crupi**, and J. Cai, "Design of a linearity improved hybrid asymmetric load modulated balanced amplifier," accepted for publication in *International Journal of Circuit Theory and Applications*.

[R207] K. Zhang, **G. Crupi**, and J. Cai, "A novel bias-included broadband combined model for GaN HEMTs in admittance domain," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, vol. 39, no. 4, e70195, July/August 2026.

[R206] Y. Hong, Z. Hao, J. Cai, **G. Crupi**, S. Chen, and C. Yu, "Design of post-matching broadband Doherty PA using modified PSO algorithm," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, vol. 39, no. 4, e70194, July/August 2026.

[R205] V. Vadalà, G. Crupi, M. Mercuri, C. Li, and Z. Chen, "The 2026 microwave theory and technology society graduate student fellowship awards," *IEEE Microwave Magazine* (Education News), vol. 27, no. 8, pp. 93-100, Aug. 2026 (Education News).

[R204] L. Guo, S. Ma, X. Shen, W. Wang, J. Huang, J. Cai, **G. Crupi**, S. Chen, and J. Ren, "A wideband dual-mode high-efficiency MMIC power amplifier based on outphasing architecture," *IEEE Transactions on Aerospace and Electronic Systems,* vol. 62, pp. 12437-12449, June 2026.

[R203] W. Wang, S. Chen, H. Gu, J. Cai, **G. Crupi**, X. Zhou, G. Wang, W. Che, and Q. Xue, "A phase-flexible load modulation network architecture for wideband outphasing power amplifiers," *IEEE Microwave and Wireless Technology Letters*, vol. 36, no. 7, pp. 1172-1175, July 2026.

[R202] Z. Gao, **G. Crupi**, and J. Cai, "An improved SVR-based broadband behavioral model for RF power transistors," *IEEE Journal of the Electron Devices Society*, vol. 14, pp. 274-286, May 2026.

[R201] R. U. Ahmed, P. Saha, S. Majumdar, and **G. Crupi**, "Look-up table framework for p-channel duble-gate MOSFETs: silicon vs. germanium evaluation," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, vol. 39, no. 3, e70180, May/June 2026 (Invited Review Paper).

[R200] Y. Xu, K. Li, Y. Wu, H. Liu, Y. Yu, C. Zhao, G. Gugliandolo, N. Donato, **G. Crupi**, and K. Kang, "A 320-GHz scalable equivalent-circuit model with dispersive NQS effect for CMOS transistors: From theory to experimental validation," *IEEE Transactions on Microwave Theory and Techniques*, vol. 74, no. 3, pp.2326-2334, March 2026.

[R199] S. Xiang, Y. Wu, J. Liu, H. Liu, C. Zhao, Y. Yu, G. Gugliandolo, N. Donato, **G. Crupi**, Y. Xu, and K. Kang, "An improved high-frequency FinFET model capturing the cryogenic tunneling effect," *IEEE Transactions on Microwave Theory and Techniques*, vol. 74, no. 3, pp. 2318-2325, March 2026.

[R198] B. Jin, Z. Fan, **G. Crupi**, and J. Cai, "Design of a hybrid asymmetric LMBA with high linearity based on improved particle swarm optimization method," *IEEE Open Journal of Circuits and Systems*, vol. 7, pp. 353-365, March 2026.

[R197] X. Zhou, E. Liu, **G. Crupi**, and J. Cai, "Development of a broadband DC-bias included CSWPL model for RF power transistors with harmonic information," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, vol. 39, no. 2, e70163, March/April 2026.

[R196] L. Arruzzoli, G. Gugliandolo, E. Zirilli, M. Latino, A. Pistone, **G. Crupi**, and N. Donato, "Through-hole spiral microstrip resonator for inline dielectric characterization of liquids," *Sensors*, vol. 26, no. 5, 1544, March 2026.

[R195] W. Wang, B. Sun, S. Chen, K. Xu, J. Cai, A. Raffo, N. Donato, **G. Crupi**, and G. Wang, "Flexible automatic design of GaN PA based on Gaussian process-assisted non-dominated sorting genetic algorithm," *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems,* vol. 45, no. 2, pp. 576-588, February 2026.

[R194] H. Kumari, A. Paul, S. Majumdar, **G. Crupi**, and J. Cai, "A compact dual-band power amplifier using spoof surface plasmon polaritons for broadband RF applications," *AEU - International Journal of Electronics and Communications*, vol. 204, no. 3, pp- 1-10, January 2026.

[R193] K. Liu, M. Du, L. Wang, M. Latino, **G. Crupi**, L. Si, H. Sun, and X. Bao "A dual-band resonance sensor for microwave complex permittivity characterization of polar liquids," *Microwave and Optical Technology Letters*, vol. 67, no. 10, e70428, October 2025.

[R192] H. Zhang, M. Geng, **G. Crupi**, and J. Cai, "Design of broadband Doherty power amplifier based on spoof surface plasmon polaritons," *International Journal of Circuit Theory and Applications*, vol. 53, no. 10, pp. 5678-5690, October 2025.

[R191] M. Geng, H. Zhang, **G. Crupi**, J. Cai, S. Chen, and B. Pan, "Design of reconfigurable PA based on spoof surface plasmon polaritons," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, vol. 38, no. 5, e70127, September/ October 2025.

[R190] X. Tang, J. Cai, **G. Crupi**, J. Liu, and S. Chen, "Modified current model for ASM-GaN including temperature effect based on CSWPL method," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, vol. 38, no. 5, e70126, September/October 2025.

[R189] G. He, B. Wu, Z. Ding, **G. Crupi**, and X. Bao, "An integrated ring-based magnetic-resonance near-field super-resolution sensing model with effective second mode suppression," *IEEE Transactions on Microwave Theory and Techniques*, vol. 73, no. 8, pp. 4557-4565, August 2025.

[R188] L. Auditore, A. Italiano, **G. Crupi**, F. Minutoli, N. Donato, A. Campenni, B. Pagano, S. Baldari, and E. Amato "Feasibility study of a wearable sensing device for activity monitoring in patients treated with ^{131}I," *Il Nuovo Cimento C*, vol. 48, pp. 1-4, August 2025.

[R187] X. Bao, J. Li, L. Wang, L. Si, **G. Crupi**, D. Schreurs, H. Yuan, H. Sun, and Z. Liu, "SLM manufacturing of a novel highly compact quarter-sphere resonator based filter," *Microwave and Optical Technology Letters*, vol. 67, no. 8, e70337, August 2025.

[R186] L. Shao, X. Bao, Z. Li, C. Xing, **G. Crupi**, G. Gugliandolo, M. Latino, L. Si, H. Sun, and L. Wen, "Microwave microfluidic sensors for analyzing magnetic bead-based bioliquids: from theory to experimental validation," *Physical Chemistry Chemical Physics*, vol. 27, no. 29, pp. 15584-15593, July 2025.

[R185] X. Bao, C. Yin, J. Li, L. Wang, D. Schreurs, L. Si, **G. Crupi**, Z. Liu, and H. Sun, "Two 3D-printed sensitive cylindrical sensors for characterizing organic liquids," *IEEE Transactions on Instrumentation and Measurement*, vol. 74, pp. 1-14, 2025, Art no. 8005314.

[R184] G. Gugliandolo, L. Arruzzoli, **G. Crupi**, and N. Donato, "Self-calibrating resonant sensor for dielectric material characterization," *IEEE Transactions on Instrumentation and Measurement*, vol. 74, pp. 1-10, 2025, Art no. 6009010.

[R183] V. Vadalà, **G. Crupi**, M. Mercuri, C. Li, and M. Jaleel Akhtar, "The 2025 MTT-S graduate student fellowship awards," *IEEE Microwave Magazine* (Education News), vol. 26, no. 8, pp. 102-108, August 2025.

[R182] B. Jin, Z. Hao **G. Crupi**, and J. Cai "Design of a broadband asymmetric Doherty PA using PSO algorithm with dynamic variable hyperparameters," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, vol. 38, no. 4, e70085, July/August 2025.

[R181] R. Singh, V. R. Devi, T. R. Lenka, R. Choudhary, P. Singh, A. Srivastava, P. Agarwal, and **G. Crupi**, "Polarization-induced versus delta-doped β-Ga_2O_3 HEMTs−A performance comparison," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, vol. 38, no. 4, e70080, July/August 2025.

[R180] K. Liu, S. Liu, Z. Wang, L. Si, M. Latino, **G. Crupi**, H. Sun, and X. Bao, "Modeling and simple parameters extraction of calibration standards for accurate mm-wave on-wafer measurements up to 110 GHz," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, vol. 38, no. 3, e70056, May/June 2025.

[R179] H. Zhang, **G. Crupi**, Z. Liao, and J. Cai "Application of spoof surface plasmon polaritons for the design of sequential load modulated balanced amplifier," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, vol. 38, no. 2, e70029, March/April 2025.

[R178] Z. Gao, B. Liu, **G. Crupi**, and J. Cai "Hyperparameter optimized SVR model based on particle swarm algorithm for RF power transistors," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, vol. 38, no. 1, e70013, January/February 2025.

[R177] D. Jin, M. Latino, **G. Crupi**, and J. Cai, "Design and experimental validation of a high-efficiency sequential load modulated balanced amplifier," *Electronics*, vol. 13, no. 9, 3897, October 2024.

[R176] Y. Ma, **G. Crupi**, J. Cai, C. Yu, S. Chen, and T. Zhou, "Behavioral modeling of LMBA with different back-off state using PSO optimized XGBoost method," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, vol. 37, no. 5, e3286, September/October 2024.

[J175] W. Wang, S. Chen, Y. Tang, J. Cai, **G. Crupi**, and Q. Xue, "New outphasing amplifier mixed-mode modulation approach for improving efficiency and gain," *IEEE Microwave and Wireless Technology Letters*, vol. 34, no. 9, pp. 1095-1098, September 2024.

[R174] W. Wang, S. Chen, Y. Tang, J. Cai, **G. Crupi**, and Q. Xue, "Generalized theory and design methodology of broadband outphasing power amplifiers employing low-order bandpass networks," *IEEE Transactions on Microwave Theory and Techniques*, vol. 72, no. 8, pp. 4611-4624, August 2024.

[R173] L. Wang, X. Bao, X. Tian, **G. Crupi**, L. Si, H. Sun, Z. Shi, and A. Zhang, "A low-profile ultra-wideband magneto-electric dipole antenna for ground penetrating radar," *International Journal of Remote Sensing*, vol. 45, no. 17, pp. 5870-5888, August 2024.

[R172] G. P. Rao, T. R. Lenka, H. P. T. Nguyen, N. El. I. Boukortt, and **G. Crupi**, "Effect of temperature dependence of 2DEG on device characteristics of field-plated recessed-gate III-nitride/ β -Ga_2O_3 nano-HEMT," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, vol. 37, no. 4, e3281, July/August 2024.

[R171] S. Sultana, J. Naima, M. S. Alam, M. S. Alam, **G. Crupi**, and M. A. Alim, "Comprehensive characterization of a high-performance double heterojunction InGaAs pHEMT for linear power-efficient amplifiers applications," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, vol. 37, no. 4, e3277, July/August 2024.

[R170] **G. Crupi**, V. Vadalà, M. Mercuri, C. Li, and X. Gong, "The 2024 MTT-S graduate student fellowship awards," *IEEE Microwave Magazine*, vol. 25, no. 8, pp. 1-8, August 2024 (Education News).

[R169] J. Huang, W. Wang, K. Xu, J. Cai, J. Pang, **G. Crupi**, G. Wang, and S. Chen, "Design of a dual-band outphasing power amplifier based on multiple topology fitting," *IEEE Transactions on Circuits and Systems II: Express Briefs*, vol. 71, no. 6, pp. 3011-3015, June 2024.

[R168] W. Wang, S. Chen, Y. Tang, J. Cai, **G. Crupi**, and Q. Xue, "Efficiency enhancement technique for outphasing amplifier with extended power back-off range," *IEEE Transactions on Circuits and Systems I: Regular Papers*, vol. 71, no. 6, pp. 2600-2611, June 2024.

[R167] G. Gugliandolo, A. Quattrocchi, M. Latino, D. Aloisio, **G. Crupi**, and N. Donato, "Microplastic identification in marine environments: A low-cost and effective approach based on transmitted light measurements," *Acta IMEKO*, vol. 13, no. 2, pp. 1-8, June 2024.

[R166] Z. Gao, T. Zhou, **G. Crupi**, and J. Cai "Hyper-parameter optimized GPR model based on chaos game algorithm for RF power transistors," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, vol. 37, no. 3, e3259, May/June 2024.

[R165] G. Bhargava, H. Kumari, V. Vadalà, S. Majumdar, and **G. Crupi**, "Physics-informed neural network assisted automated design of power amplifier by user defined specifications," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, vol. 37, no. 3, e3246, May/June 2024.

[R164] E. Liu, X. Tang, **G. Crupi**, and J. Cai, "DC-bias and temperature included CSWPL model for RF power transistors," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields,* vol. 37, no. 2, e3229, March/April 2024.

[R163] D. Pyngrope, S. Majumdar, and **G. Crupi**, "Fractional order capacitance behavior due to hysteresis effect of ferroelectric material on GaN HEMT devices," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, vol. 37, no. 2, e3206, March/April 2024.

[R162] S. Das, T. R. Lenka, F. A. Talukdar, H. P. T. Nguyen, and **G. Crupi**, "The role of Indium composition in $In_xGa_{1-x}N$ prestrained layer towards optical characteristics of EBL free GaN/InGaN nanowire LEDs for enhanced luminescence," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, vol. 37, no. 2, e3169, March/April 2024.

[R161] Z. Hao, Y. Qu, J. Huang, **G. Crupi**, and J. Cai, "Automatic multi-objective particle swarm optimization method for effective Doherty power amplifier design," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, vol. 37, no. 2, e3204, March/April 2024.

[R160] S. Cheng, X. Tang, Z. Marinković, **G. Crupi**, and J. Cai, "Incorporating DC bias voltage in poly-harmonic distortion modelling for RF power GaN transistors," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, vol. 37, no. 2, e3201, March/April 2024.

[R159] X. Tang, A. Raffo, **G. Crupi**, and J. Cai, "Harmonic included CSWPL model for broadband PA design based on GaN HEMTs," *IEEE Transactions on Electron Devices*, vol. 71, no. 3, pp. 1387-1395, March 2024.

[R158] Tang, A. Raffo, N. Donato, **G. Crupi**, and J. Cai, "Theoretical and experimental analysis of a CSWPL behavioral model for microwave GaN transistors including DC bias voltages," *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, vol. 43, no. 3, pp. 933-943, March 2024.

[J157] G. Gugliandolo, A. Quattrocchi, G. Campobello, **G. Crupi**, and N. Donato, "On the development of inkjet-printed band pass filters based on the microstrip hairpin structure," *Instruments*, vol. 8, no. 1, 23, March 2024.

[R156] W. Wang, S. Li, S. Chen, J. Cai, Y. Li, X.Y. Zhou, **G. Crupi**, G. Wang, and Q. Xue, "A broadband outphasing GaN power amplifier based on reconfigurable output combiner," *IEEE Transactions on Microwave Theory and Techniques*, vol. 72, no. 2, pp. 1030-1044, February 2024.

[R155] Z. Zhu, G. Bosi, A. Raffo, **G. Crupi**, and J. Cai, "Accurate modeling of GaN HEMTs oriented to analysis of kink effects in S_{22} and h_{21}: An effective machine learning approach," *IEEE Journal of the Electron Devices Society*, vol. 12, pp. 201-210, February 2024.

[R154] R. Singh, G. P. Rao, T. R. Lenka, S. V. S. Prasad, N. El. I. Boukortt, **G. Crupi**, and H. P. T. Nguyen, "Design and simulation of T-gate AlN/ β -Ga_2O_3 HEMT for DC, RF and high-power nanoelectronics switching applications," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, vol. 37, no. 1, e3146, January/February 2024.

[R153] Y. Qu, **G. Crupi**, N. Donato, and J. Cai, "Development and validation of a novel bias network design method for a class AB PA," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, vol. 37, no. 1, e3153, January/February 2024.

[R152] **G. Crupi**, "Microwaves go fast: Empowering electronics for a brighter future," *Electronics*, vol. 13, no. 1, 235, January 2024 (Editorial Paper).

[R151] C. De Marchis, **G. Crupi**, N. Donato, and S. Baldari, "Wearable electronic systems based on smart wireless sensors for multimodal physiological monitoring in health applications: Challenges, opportunities, and future directions," *Electronics*, vol. 12, no. 20, 4284, October 2023 (Editorial Paper).

[R150] S. Das, T. R. Lenka, F. A. Talukdar, H. P. T. Nguyen, and **G. Crupi**, "Polarization engineered p-type electron blocking layer free AlGaN based UV-LED using quantum barriers with heart-shaped graded Al composition for enhanced luminescence," *Micromachines*, vol. 14, no. 10, 1926, October 2023.

[R149] H. Yuan, Z. Liu, L. Wang, L. Si, H. Sun, **G. Crupi**, D. Schreurs, and X. Bao, "SLM printed wideband circularly polarized multilayer antenna array with reduced impact by the manufacturing imperfection," *IEEE Access*, vol. 11, pp. 105368-105378, September 2023.

[R148] M. Wu, S. Wang, C. Yu, **G. Crupi**, and J. Cai, "Application of load-pull X-parameters for GaN device based load modulated balanced power amplifier design," *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, vol. 42, no. 8, pp. 2664-2674, August 2023.

[R147] S. Das, T. R. Lenka, F. A. Talukdar, **G. Crupi**, and H. P. T. Nguyen, "High-performance DUV AlGaN multi-quantum well LED with step-graded n-type AlInGaN electron blocking layer," *Journal of Optoelectronics and Advanced Materials*, vol. 25, no. 7/8, pp. 311-320, July/August 2023.

[R146] G. Gugliandolo, **G. Crupi**, V. Vadalà, A. Raffo, N. Donato, and G. Vannini, "A systematic and numerical methodology for GaN HEMT current-gain peak analysis using the complex Lorentzian function," *IEEE Microwave and Wireless Technology Letters*, vol. 33, no. 7, 1007-1010, July 2023.

[R145] G. Gugliandolo, A. Alimenti, M. Latino, **G. Crupi**, K. Torokhtii, E. Silva, and N. Donato, "Inkjet-printed interdigitated capacitors for sensing applications: Temperature-dependent electrical characterization at cryogenic temperatures down to 20 K," *Instruments*, vol. 7, no. 3, 20, July 2023.

[R144] G. Bosi, A. Raffo, V. Vadalà, R. Gioffrè, **G. Crupi**, and G. Vannini, "A thorough evaluation of GaN HEMT degradation under realistic power amplifier operation," *Electronics*, vol. 12, no. 13, 2939, July 2023.

[R143] M. Wu, **G. Crupi**, C. Yu, and J. Cai, "Application of X-parameter model of gallium nitride device for a continuous broadband Doherty power amplifier design," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, vol. 36, no. 4, e3072, July/August 2023.

[R142] G. Gugliandolo, G. Vermiglio, G. Cutroneo, G. Campobello, **G. Crupi**, and N. Donato, "Development, characterization, and circuit modeling of inkjet printed coupled ring resonators for application in biological samples," *IEEE Transactions on Instrumentation and Measurement*, vol. 72, pp. 1-10, 2023, Art no. 8002810.

[R141] **G. Crupi**, C. Li, and X. Gong, "The 2023 MTT-S graduate student fellowship awards," *IEEE Microwave Magazine*, vol. 24, no. 7, pp. 70, 72-76, 90, July 2023 (Education News).

[R140] B. Liu, J. Guo, X. Tang, **G. Crupi**, and J. Cai, "Threshold optimized CSWPL behavioral model for RF power transistors based on particle swarm algorithm," *IEEE Microwave and Wireless Technology Letters*, vol. 33, no. 5, pp. 531-534, May 2023.

[R139] M. Radojković, G. Gugliandolo, M. Latino, Z. Marinkovic, **G. Crupi**, and, N. Donato, "Development and validation of an ANN-based approach for temperature-dependent equivalent circuit modeling of SAW resonators," *Micromachines*, vol. 14, no. 5, 967, April 2023.

[R138] **G. Crupi**, M. Latino, G. Gugliandolo, Z. Marinkovic, J. Cai, G. Bosi, A. Raffo, E. Fazio, and N. Donato, "A comprehensive overview of the temperature-dependent modeling of the high-power GaN HEMT technology using mm-wave scattering parameter measurements (Invited Paper)," *Electronics*, vol. 12, no. 8, 1771, April 2023 (Invited Paper).

[R137] G. Bhargava, S. Majumdar, G. Gugliandolo, G. Campobello, N. Donato, and **G. Crupi**, "Design and validation of a low-cost antenna-based solution for microwave imaging of RCC structure," *IEEE Sensors Letters*, vol. 7, no. 4, 3500604, April 2023.

[R136] M. A. Alim, A. Jarndal, C. Gaquiere, and **G. Crupi**, "A study of DC and RF transconductance for different technologies of HEMT at low and high temperatures," *Journal of Materials Science: Materials in Electronics*, vol. 34, 892, April 2023.

[R135] **G. Crupi**, "From the Editor-in-Chief," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, vol. 36, no. 2, e3099, March/April 2023 (Editorial Paper).

[R134] M. Geng, **G. Crupi,** and J. Cai, "Accurate and effective nonlinear behavioral modeling of a 10-W GaN HEMT based on LSTM neural networks," *IEEE Access*, vol. 11, pp. 27267-27279, March 2023.

[R133] N. Boukortt, S. Patanè, B. Hadri, and **G. Crupi**, "Graded bandgap ultrathin CIGS solar cells (Invited Paper)," *Electronics*, vol. 12, no. 2, 393, January 2023 (Invited Paper).

[R132] H. Yuan, J. Li, Z. Zhao, Z. Wang, M. B. Lodi, G. Gugliandolo, N. Donato, **G. Crupi**, L. Si, and X. Bao "Development of a wideband slotted antenna array with low profile and low sidelobe (Invited Paper)," *Electronics*, vol. 12, no. 2, 278, January 2023 (Invited Paper).

[R131] **G. Crupi**, "Meet the Editors," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, vol. 35, no. 6, e3070, November/December 2022 (Editorial Paper).

[R130] G. Bhargava, V. Vadalà, S. Majumdar, and **G. Crupi**, "Auto-encoder based hybrid machine learning model for microwave scaled GaAs pHEMT devices," *International Journal of RF and Microwave Computer-Aided Engineering*, vol. 32, no. 11, e23339, November 2022.

[R129] Z. Zhao, J. Li, H. Yuan, Z. Wang, G. Gugliandolo, N. Donato, **G. Crupi**, L. Si, and X. Bao, "Electrical characterization of through-silicon-via-based coaxial line for high-frequency 3D integration (Invited Paper)," *Electronics*, vol. 11, no. 20, 3417, October 2022 (Invited Paper).

[R128] Y. Qu, **G. Crupi**, and J. Cai, "A broadband PA design based on Bayesian optimization augmented by dynamic feasible region shrinkage," *IEEE Microwave and Wireless Components Letters*, vol. 32, no. 10, pp. 1139-1142, October 2022.

[R127] **G. Crupi**, "Welcome to the new Editor-in-Chief," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, vol. 35, no. 5, e2903, September/October 2022 (Editorial Paper).

[R126] A. Jarndal, **G. Crupi**, M. A. Alim, V. Vadalà, A. Raffo, and G. Vannini, "Equivalent-circuit extraction for gallium nitride electron devices: Direct versus optimization-empowered approaches," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, vol. 35, no. 5, e3008, September/October 2022.

[R125] J. Guo, **G. Crupi**, and J. Cai, "A broadband asymmetric Doherty power amplifier design based on multiobjective Bayesian optimization: Theoretical and experimental validation," *IEEE Access,* vol. 10, pp. 89823-89834, August 2022.

[R124] **G. Crupi**, R. Kaul, C. Li, and W. Che, "The 2022 MTT-S graduate student fellowship awards," *IEEE Microwave Magazine*, vol. 23, no. 8, pp. 28-33, August 2022 (Education News).

[R123] G. Campobello, G. Gugliandolo, A. Quercia, E. Tatti, M. F. Ghilardi, **G. Crupi**, A. Quartarone, and N. Donato, "On the trade-off between compression efficiency and distortion of a new compression algorithm for multichannel EEG signals based on singular value decomposition," *Acta IMEKO*, vol. 11, no. 2, pp. 1-7, June 2022.

[R122] J. Guo, **G. Crupi**, and J. Cai, "Novel design methodology for a multioctave GaN-HEMT power amplifier using clustering guided Bayesian optimization," *IEEE Access,* vol. 10, pp. 52771-52781, May 2022.

[R121] G. Gugliandolo, K. Naishadham, **G. Crupi**, G. Campobello, and N. Donato, "Microwave transducers for gas sensing: A challenging and promising new frontier," *IEEE Instrumentation and Measurement Magazine*, vol. 25, no. 3, pp. 42-51, May 2022.

[R120] G. Gugliandolo, K. Naishadham, **G. Crupi**, and N. Donato, "Design and characterization of a microwave transducer for gas sensing applications," *Chemosensors*, vol. 10, no. 4, 127, March 2022.

[R119] G. Gugliandolo, Z. Marinkovic, **G. Crupi**, G. Campobello, and N. Donato, "Equivalent circuit model extraction for a SAW resonator: Below and above room temperature," *Sensors*, vol. 22, no. 7, 2546, March 2022.

[R118] R. Singh, T. R. Lenka, D. K. Panda, H. P. T. Nguyen, N. El. I. Boukortt, and **G. Crupi**, "Analytical modeling of I-V characteristics using 2D Poisson equations in AlN/ β -Ga_2O_3 HEMT," *Materials Science in Semiconductor Processing*, vol. 145, no. 1, 106627, July 2022.

[R117] S. Das, T. R. Lenka, F. A. Talukdar, R. T. Velpula, B. Jain, H. P. T. Nguyen, and **G. Crupi**, "Effects of polarized-induced doping and graded composition in an advanced multiple quantum well InGaN/GaN UV-LED for enhanced light technology," *Engineering Research Express*, vol. 4, no. 1, 015030, March 2022.

[R116] X. Bao, L. Wang, Z. Wang, J. Zhang, M. Zhang, **G. Crupi**, and A. Zhang, "Simple, fast, and accurate broadband complex permittivity characterization algorithm: Methodology and experimental validation from 140 GHz up to 220 GHz," *Electronics*, vol. 11, no. 3, 366, January 2022 (Feature Paper).

[R115] N. E. I. Boukortt, T. R. Lenka, S. Patanè, and **G. Crupi**, "Effects of varying the fin width, fin height, gate dielectric material, and gate length on the DC and RF performance of a 14-nm SOI FinFET structure," *Electronics*, vol. 11, no. 1, 91, January 2022 (Feature Paper).

[R114] V. Vadalà and **G. Crupi**, "Guest editorial for the special issue on modeling of µmwave and mmwave electronic devices for wireless systems: Connecting technologies to applications," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, vol. 34, no. 5, e2940, September/October 2021 (Editorial Paper).

[R113] M. A. Alim, M. M. Ali, and **G. Crupi**, "Measurement-based analysis of GaAs HEMT technologies: Multilayer D-H pseudomorphic HEMT versus conventional S-H HEMT," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, vol. 34, no. 5, e2873, September/October 2021.

[R112] **G. Crupi**, R. Kaul, C. Li, W. Che, and R. Henderson, "The 2021 MTT-S graduate student fellowship awards," *IEEE Microwave Magazine*, vol. 22, no. 8, pp. 85-91, August 2021 (Education News).

[R111] G. Gugliandolo, D. Aloisio, G. Campobello, **G. Crupi**, and N. Donato, "On the design and characterisation of a microwave microstrip resonator for gas sensing applications," *Acta IMEKO*, vol. 10, no. 2, pp. 54-61, June 2021.

[R110] M. A. Alim, C. Gaquiere, and **G. Crupi**, "An experimental and systematic insight into the temperature sensitivity for a 0.15-µm gate-length HEMT based on the GaN technology," *Micromachines*, vol. 12, no. 5, 549, May 2021.

[R109] M. A. Alim, A. Z. Chowdhury, S. Islam, C. Gaquiere, and **G. Crupi**, "Temperature-sensitivity of two microwave HEMT devices: AlGaAs/GaAs vs AlGaN/GaN heterostructures," *Electronics*, vol. 10, no. 9, 1115, May 2021.

[R108] A. Jarndal, M. A. Alim, A. Raffo, and **G. Crupi**, "2-mm-gate-periphery GaN HEMTs on SiC and Si substrates: A comparative analysis from a small-signal standpoint," *International Journal of RF and Microwave Computer-Aided Engineering*, vol. 31, no. 6, e22642, June 2021.

[R107] **G. Crupi**, G. Gugliandolo, G. Campobello, and N. Donato, "Measurement-based extraction and analysis of a temperature-dependent equivalent-circuit model for a SAW resonator: From room down to cryogenic temperatures," *IEEE Sensors Journal*, vol. 21, no. 10, pp. 12202-12211, May 2021.

[R106] A. Caddemi, E. Cardillo, and **G. Crupi**, "Optical sensitivity of HEMT-based devices and low-noise amplifiers," *International Journal of Electronics*, vol. 108, no. 3, pp. 361-377, March 2021.

[R105] A. Jarndal, **G. Crupi**, A. Raffo, V. Vadalà, and G. Vannini, "An improved transistor modeling methodology exploiting the quasi-static approximation," *IEEE Journal of the Electron Devices Society*, vol. 9, pp. 378-386, March 2021.

[R104] A. Caddemi, L. Boglione, E. Cardillo, **G. Crupi**, and J. Roussos, "Cross-laboratory experimental validation of a tuner-less technique for the microwave noise parameters extraction," *IEEE Transactions on Microwave Theory and Techniques*, vol. 69, no. 3, pp. 1733-1739, March 2021.

[R103] G. Gugliandolo, Z. Marinkovic, G. Campobello, **G. Crupi**, and, N. Donato, "On the performance evaluation of commercial SAW resonators by means of a direct and reliable equivalent-circuit extraction," *Micromachines*, vol. 12, no. 3, 303, March 2021.

[R102] X. Bao, **G. Crupi**, I. Ocket, J. Bao, F. Ceyssens, M. Kraft, B. Nauwelaers, and D. M. M.-P. Schreurs, "Numerical modeling of two microwave sensors for biomedical applications," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, vol. 34, no. 1, e2810, January/February 2021 (Invited Paper).

[R101] Z. Marinkovic, G. Gugliandolo, M. Latino, G. Campobello, **G. Crupi**, and N. Donato, "Characterization and neural modeling of a microwave gas sensor for oxygen detection aimed at healthcare applications," *Sensors*, vol. 20, no. 24, 7150, December 2020.

[R100] M. A. Alim, A. A. Rezazadeh, and **G. Crupi**, "Experimental insight into the temperature effects on DC and microwave characteristics for a GaAs pHEMT in multilayer 3-D MMIC technology," *International Journal of RF and Microwave Computer-Aided Engineering,* vol. 30, no. 10, e22379, October 2020.

[R99] **G. Crupi**, A. Raffo, V. Vadalà, G. Vannini, D. M. M.-P. Schreurs, and A. Caddemi, "Scalability of multifinger HEMT performance," *IEEE Microwave and Wireless Components Letters*, vol. 30, no. 9, pp. 869-872, September 2020.

[R98] **G. Crupi**, R. Kaul, C. Li, and R. Henderson, "The 2020 MTT-S graduate student fellowship awards," *IEEE Microwave Magazine*, vol. 21, no. 8, pp. 94-100, August 2020 (Education News).

[R97] N. Boukortt, S. Patanè, and **G. Crupi**, "3D investigation of 8-nm tapered n-FinFET model," *Silicon*, vol. 12, no. 7, pp. 1585-1591, July 2020.

[R96] A. Jarndal, A. S. Hussein, **G. Crupi**, and A. Caddemi, "Reliable noise modeling of GaN HEMTs for desiging low-noise-amplifiers," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, vol. 33, no. 3, e2585, May/June 2020.

[R95] Z. Marinković, **G. Crupi**, A. Caddemi, V. Marković, and D. M. M.-P. Schreurs, "A review on the artificial neural network applications for small-signal modeling of microwave FETs," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, vol. 33, no. 3, e2668, May/June 2020.

[R94] A. Caddemi, E. Cardillo, and **G. Crupi**, "Equivalent-circuit based modeling of the scattering and noise parameters for multi-finger GaAs pHEMTs," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, vol. 33, no. 3, e2587, May/June 2020.

[R93] M. A. Alim, M. A. Hasan, A. A. Rezazadeh, C. Gaquiere, and **G. Crupi**, "Multi-bias and temperature dependence of the current-gain peak in GaN HEMT," *International Journal of RF and Microwave Computer-Aided Engineering*, vol. 30, no. 4, e22129, April 2020.

[R92] **G. Crupi**, X. Bao, O. J. Babarinde, D. M. M.-P. Schreurs, and B. Nauwelaers, "Biosensor using a one-port interdigital capacitor: A resonance-based investigation of the permittivity sensitivity for microfluidic broadband bioelectronics applications," *Electronics*, vol. 9, no. 2, 340, February 2020 (Feature Paper).

[R91] A. Caddemi, E. Cardillo, **G. Crupi**, L. Boglione, and J. Roussos, "Microwave linear characterization procedures of on-wafer scaled GaAs pHEMTs for low-noise applications," *Electronics*, vol. 8, no. 11, 1365, November 2019 (Feature Paper).

[R90] **G. Crupi**, R. Kaul, C. Li, and R. Henderson, "The 2019 MTT-S graduate student fellowship awards," *IEEE Microwave Magazine*, vol. 20, no. 8, pp. 78-83, August 2019 (Education News).

[R89] M. A. Alim, A. A. Rezazadeh, C. Gaquiere, and **G. Crupi**, "Thermal influence on S_{22} kink behavior of a 0.15-μm gate length AlGaN/GaN/SiC HEMT for microwave applications," *Semiconductor Science and Technology*, vol. 34, no. 3, pp. 1-8, March 2019.

[R88] **G. Crupi**, A. Raffo, V. Vadalà, G. Vannini, and A. Caddemi, "High-periphery GaN HEMT modeling up to 65 GHz and 200°C," *Solid-State Electronics*, vol. 152, pp. 11-16, February 2019.

[R87] **G. Crupi**, A. Raffo, V. Vadalà, G. Vannini, and A. Caddemi, "A new study on the temperature and bias dependence of the kink effects in S_{22} and h_{21} for the GaN HEMT technology," *Electronics*, vol. 7, no. 12, 353, December 2018 (Feature Paper).

[R86] **G. Crupi**, A. Raffo, V. Vadalà, G. Vannini, and A. Caddemi, "Current-gain in FETs beyond cut-off frequency," *Microwave and Optical Technology Letters*, vol. 60, no. 12, pp. 3023-3026, December 2018.

[R85] G. Bosi, A. Raffo, F. Trevisan, V. Vadalà, **G. Crupi**, and G. Vannini, "Nonlinear-embedding design methodology oriented to LDMOS power amplifiers," *IEEE Transactions on Power Electronics*, vol. 33, no. 10, pp. 8764-8774, October 2018.

[R84] **G. Crupi**, R. Kaul, C. Li, and R. K. Gupta, "The 2018 MTT-S graduate student fellowship awards," *IEEE Microwave Magazine*, vol. 19, no. 6, pp. 114, 116-119, 131, September/October 2018 (Education News).

[R83] M. A. Alim, A. A. Rezazadeh, C. Gaquiere, and **G. Crupi**, "Extrinsic capacitance extraction for GaAs and GaN FETs from low to high temperatures," *Semiconductor Science and Technology*, vol. 33, no. 8, pp. 1-5, August 2018.

[R82] A. Caddemi, E. Cardillo, and **G. Crupi**, "Light activation of noise at microwave frequencies: A study on scaled GaAs HEMT's," *IET Circuits, Devices & Systems*, vol. 12, no. 3, pp. 242-248, May 2018.

[R81] **G. Crupi**, A. Raffo, V. Vadalà, G. Avolio, D. M. M.-P. Schreurs, G. Vannini, and A. Caddemi, "Technology-independent analysis of the double current-gain peak in millimeter-wave FETs," *IEEE Microwave and Wireless Components Letters*, vol. 28, no. 4, pp. 326-328, April 2018.

[R80] X. Bao, I. Ocket, **G. Crupi**, D. M. M.-P. Schreurs, J. Bao, D. Kil, B. Puers, and B. Nauwelaers, "A planar one-port microwave microfluidic sensor for microliter liquids characterization," *IEEE Journal of Electromagnetics, RF, and Microwaves in Medicine and Biology*, vol. 2, no. 1, pp. 10-17, March 2018.

[R79] N. Boukortt, B. Hadri, S. Patanè, A. Caddemi, and **G. Crupi**, "Investigation on TG n-FinFET parameters by varying channel doping concentration and gate length," *Silicon*, vol. 9, no. 6, pp. 885-893, November 2017.

[R78] **G. Crupi**, D. M. M.-P. Schreurs, and A. Caddemi, "Effects of gate-length scaling on microwave MOSFET performance," *Electronics*, vol. 6, no. 3, 62, September 2017 (Feature Paper).

[R77] **G. Crupi**, R. Kaul, C. Li, and R. K. Gupta, "The 2017 MTT-S graduate student fellowship awards," *IEEE Microwave Magazine*, vol. 18, no. 5, pp. 110-114, July/August 2017 (Education News).

[R76] **G. Crupi**, V. Vadalà, P. Colantonio, E. Cipriani, A. Caddemi, G. Vannini, and D. M. M.-P. Schreurs, "Empowering GaN HEMT models: The gateway for power amplifier design," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields,* vol. 30, no. 1, e2125, January/February 2017 (Invited Paper).

[R75] V. Đorđević, Z. Marinković, **G. Crupi**, O. Pronić-Rančić, V. Marković, and A. Caddemi, "Wave approach for noise modeling of GaN HEMTs," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, vol. 30, no. 1, e2138, January/February 2017.

[R74] N. Boukortt, B. Hadri, A. Caddemi, **G. Crupi**, and S. Patanè, "Temperature dependence of electrical parameters of silicon-on-insulator triple gate n-channel fin field effect transistor," *Transactions on Electrical and Electronic Materials*, vol. 17, no. 6, pp. 329-334, December 2016.

[R73] **G. Crupi**, A. Caddemi, D. M. M.-P. Schreurs, and G. Dambrine, "The large world of FET small-signal equivalent circuits," *International Journal of RF and Microwave Computer-Aided Engineering*, vol. 26, no. 9, pp. 749-762, November 2016 (Invited Paper).

[R72] **G. Crupi**, A. Raffo, G. Avolio, D. M. M.-P. Schreurs, G. Vannini, and A. Caddemi, "Temperature influence on GaN HEMT equivalent circuit," *IEEE Microwave and Wireless Components Letters*, vol. 26, no. 10, pp. 813-815, October 2016.

[R71] A. Caddemi, E. Cardillo, and **G. Crupi**, "Comparative analysis of microwave low-noise amplifiers under laser illumination," *Microwave and Optical Technology Letters*, vol. 58, no. 10, pp. 2437-2443, October 2016.

[R70] N. Boukortt, B. Hadri, S. Patanè, A. Caddemi, and **G. Crupi**, "Electrical characteristics of 8-nm SOI n-FinFETs," *Silicon*, vol. 8, no. 4, pp. 497-503, October 2016.

[R69] **G. Crupi**, R. Kaul, C. Li, and R. K. Gupta, "The 2016 MTT-S graduate student fellowship awards," *IEEE Microwave Magazine*, vol. 17, no. 8, pp. 84-89, August 2016 (Education News).

[R68] **G. Crupi** and P. Colantonio, "Guest editorial," *IEEE Transactions on Microwave Theory and Techniques*, vol. 64, no. 5, pp. 1349-1350, May 2016 (Editorial Paper).

[R67] A. Caddemi, E. Cardillo, and **G. Crupi**, "Microwave noise parameter modeling of a GaAs HEMT under optical illumination," *Microwave and Optical Technology Letters*, vol. 58, no. 1, pp. 151-154, January 2016.

[R66] **G. Crupi**, R. Kaul, C. Li, and R. K. Gupta, "2015 MTT-S graduate student fellowship awards," *IEEE Microwave Magazine*, vol. 16, no. 10, pp. 70-74, 81, November 2015 (Education News).

[R65] S. Colangeli, W. Ciccognani, E. Limiti, A. Caddemi, **G. Crupi**, and G. Salvo, "Black-box noise modeling of GaAs HEMTs under illumination," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, vol. 28, no. 6, pp. 698-706, November/December 2015.

[R64] A. Nalli, A. Raffo, **G. Crupi**, S. D'Angelo, D. Resca, F. Scappaviva, G. Salvo, A. Caddemi, and G. Vannini, "GaN HEMT noise model based on electromagnetic simulations," *IEEE Transactions on Microwave Theory and Techniques*, vol. 63, no. 8, pp. 2498-2508, August 2015.

[R63] N. Boukortt, B. Hadri, A. Caddemi, **G. Crupi**, and S. Patanè, "3-D simulation of nanoscale SOI n-FinFET at a gate length of 8 nm using ATLAS SILVACO," *Transactions on Electrical and Electronic Materials*, vol. 16, no. 3, pp. 156-161, June 2015.

[R62] Z. Marinković, **G. Crupi**, A. Caddemi, G. Avolio, A. Raffo, V. Marković, G. Vannini, and D. M. M.-P. Schreurs, "Neural approach for temperature dependent modeling of GaN HEMTs," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, vol. 28, no. 4, pp. 359-370, July/August 2015.

[R61] **G. Crupi**, A. Raffo, A. Caddemi, and G. Vannini, "Kink effect in S_{22} for GaN and GaAs HEMTs," *IEEE Microwave and Wireless Components Letters*, vol. 25, no. 5, pp. 301-303, May 2015.

[R60] **G. Crupi**, A. Caddemi, A. Raffo, G. Salvo, A. Nalli, and G. Vannini, "GaN HEMT noise modeling based on 50-ohm noise factor," *Microwave and Optical Technology Letters*, vol. 57, no. 4, pp. 937-942, April 2015.

[R59] A. Caddemi, **G. Crupi**, and G. Salvo, "A link between noise parameters and light exposure in GaAs pHEMT's," *Solid-State Electronics*, vol. 105, pp. 16-20, March 2015.

[R58] **G. Crupi**, A. Raffo, G. Avolio, G. Bosi, G. Sivverini, F. Palomba, A. Caddemi, D. M. M.-P. Schreurs, and G. Vannini, "Nonlinear modeling of GaAs pHEMTs for millimeter-wave mixer design," *Solid-State Electronics*, vol. 104, pp. 25-32, February 2015.

[R57] C. Garripoli, M. Mercuri, P. Karsmakers, P. J. Soh, **G. Crupi**, G. A. E. Vandenbosch, C. Pace, P. Leroux, and D. M. M.-P. Schreurs, "Embedded DSP-based telehealth radar system for remote in-door fall detection," *IEEE Journal of Biomedical and Health Informatics*, vol. 19, no. 1, pp. 92-101, January 2015.

[R56] **G. Crupi** and A. Raffo, "Guest editorial," *IEEE Transactions on Microwave Theory and Techniques*, vol. 62, no. 11, pp. 2497-2498, November 2014 (Editorial Paper).

[R55] G. Avolio, A. Raffo, I. Angelov, V. Vadalà, **G. Crupi**, A. Caddemi, G. Vannini, and D. M. M.-P. Schreurs, "Millimetre-wave FET nonlinear modelling based on the dynamic-bias measurement technique," *IEEE Transactions on Microwave Theory and Techniques*, vol. 62, no. 11, pp. 2526-2537, November 2014.

[R54] **G. Crupi**, D. M. M.-P. Schreurs, and A. Caddemi, "Guest editorial for the special issue on Modeling of high-frequency silicon transistors," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, vol. 27, no. 5-6, pp. 703-706, September/December 2014 (Editorial Paper).

[R53] G. Bosi, **G. Crupi**, V. Vadalà, A. Raffo, A. Giovannelli, and G. Vannini, "Nonlinear modeling of LDMOS transistors for high-power FM transmitters," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, vol. 27, no. 5-6, pp. 780-791, September/December 2014.

[R52] Z. Marinković, **G. Crupi**, D. M. M.-P. Schreurs, A. Caddemi, and V. Marković, "Microwave neural modeling for silicon FinFET varactor," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, vol. 27, no. 5-6, pp. 834-845, September/December 2014.

[R51] **G. Crupi**, R. Kaul, C. Li, T. J. Brazil, and R. K. Gupta, "2014 MTT-S graduate student fellowship awards," *IEEE Microwave Magazine*, vol. 15, no. 5, pp. 118-121, July/August 2014 (Education News).

[R50] G. Avolio, A. Raffo, I. Angelov, **G. Crupi**, A. Caddemi, G. Vannini, and D. M. M.-P. Schreurs, "Small- versus large-signal extraction for charge models of microwave FETs," *IEEE Microwave and Wireless Components Letters*, vol. 24, no. 6, pp. 394-396, June 2014.

[R49] **G. Crupi**, R. Kaul, C. Li, and D. M. M.-P. Schreurs, "2013 MTT-S graduate student fellowship awards," *IEEE Microwave Magazine*, vol. 15, no. 4, pp. 154-158, June 2014 (Education News).

[R48] **G. Crupi**, A. Raffo, Z. Marinković, G. Avolio, A. Caddemi, V. Marković, G. Vannini, and D. M. M.-P. Schreurs, "An extensive experimental analysis of the kink effects in S_{22} and h_{21} for a GaN HEMT," *IEEE Transactions on Microwave Theory and Techniques*, vol. 62, no. 3, pp. 513-520, March 2014.

[R47] A. Caddemi, **G. Crupi**, E. Fazio, S. Patanè, and G. Salvo, "Remarks of an extensive investigation on the microwave HEMT behavior under illumination," *IEEE Microwave and Wireless Components Letters*, vol. 24, no. 2, pp. 102-104, February 2014.

[R46] G. Avolio, D. M. M.-P. Schreurs, A. Raffo, **G. Crupi**, A. Caddemi, G. Vannini, and B. Nauwelaers, "Straightforward modeling of dynamic I-V characteristics for microwave FETs," *International Journal of RF and Microwave Computer-Aided Engineering*, vol. 24, no. 1, pp. 109-116, January 2014.

[R45] A. Caddemi, **G. Crupi**, E. Fazio, S. Patanè, and G. Salvo, "A complete microwave characterization of GaAs HEMTs under optical illumination," *Microwave Review*, vol. 19, no. 2, pp. 112-118, December 2013.

[R44] **G. Crupi**, A. Raffo, D. M. M.-P. Schreurs, G. Avolio, A. Caddemi, and G. Vannini, "Identification of the intrinsic capacitive core for GaAs HEMTs by investigating the frequency behavior of the impedance parameters," *Microwave and Optical Technology Letters*, vol. 55, no. 6, pp. 2137-1240, June 2013.

[R43] **G. Crupi**, D. M. M.-P. Schreurs, and A. Caddemi, "Call for papers: Modeling of high-frequency silicon transistors," *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, vol. 26, no. 1, pp. 101, January/February 2013 (Call for Papers).

[R42] **G. Crupi**, D. M. M.-P. Schreurs, J.-P. Raskin, and A. Caddemi, "A comprehensive review on microwave FinFET modeling for progressing beyond the state of art," *Solid-State Electronics*, vol. 80, pp. 81-95, February 2013 (Review Paper).

[R41] **G. Crupi**, A. Raffo, D. M. M.-P. Schreurs, G. Avolio, A. Caddemi, and G. Vannini, "A clear-cut understanding of the current-gain peak in HEMTs: Theory and experiments," *Microwave and Optical Technology Letters*, vol. 54, no. 12, pp. 2801-2806, December 2012.

[R40] S. Barker, R. Kaul, **G. Crupi**, and D. M. M.-P. Schreurs, "MTT-S graduate student fellowship awards," *IEEE Microwave Magazine*, vol. 13, no. 7, pp. 88-93, November/December 2012 (Education News).

[R39] Z. Marinković, **G. Crupi**, D. M. M.-P. Schreurs, A. Caddemi, and V. Marković, "Multibias neural modeling of fin field-effect transistor admittance parameters," *Microwave and Optical Technology Letters*, vol. 54, no. 9, pp. 2082-2088, September 2012.

[R38] **G. Crupi**, A. Raffo, A. Caddemi, and G. Vannini, "The kink phenomenon in the transistor S_{22}: A systematic and numerical approach," *IEEE Microwave and Wireless Components Letters*, vol. 22, no. 8, pp. 406-408, August 2012.

[R37] **G. Crupi**, D. M. M.-P. Schreurs, A. Caddemi, A. Raffo, F. Vanaverbeke, G. Avolio, G. Vannini, and W. De Raedt, "In-deep insight into the extrinsic capacitance impact on GaN HEMT modeling at millimeter-wave band," *International Journal of RF and Microwave Computer-Aided Engineering*, vol. 22, no. 3, pp. 308-318, May 2012.

[R36] G. Avolio, D. M. M.-P. Schreurs, A. Raffo, **G. Crupi**, G. Vannini, and B. Nauwelaers, "Waveforms only based nonlinear de-embedding in active devices," *IEEE Microwave and Wireless Components Letters*, vol. 22, no. 4, pp. 215-217, April 2012.

[R35] Z. Marinković, **G. Crupi**, D. M. M.-P. Schreurs, A. Caddemi, and V. Marković, "Neural modeling of high-frequency forward transmission coefficient for HEMT and FinFET technologies," *Microwave Review*, vol. 17, no. 2, pp. 17-22, December 2011.

[R34] G. Avolio, D. M. M.-P. Schreurs, A. Raffo, **G. Crupi**, I. Angelov, G. Vannini, and B. Nauwelaers, "Identification technique of FET model based on vector nonlinear measurements," *Electronics Letters*, vol. 47, no. 24, pp. 1323-1324, November 2011.

[R33] **G. Crupi**, G. Avolio, A. Raffo, P. Barmuta, D. M. M.-P. Schreurs, A. Caddemi, and G. Vannini, "Investigation on the thermal behavior for microwave GaN HEMTs," *Solid-State Electronics*, vol. 64, no. 1, pp. 28-33, October 2011.

[R32] Z. Marinković, **G. Crupi**, D. M. M.-P. Schreurs, A. Caddemi, and V. Marković, "Microwave FinFET modeling based on artificial neural networks including lossy silicon substrate," *Microelectronic Engineering*, vol. 88, no. 10, pp. 3158-3163, October 2011.

[R31] D. Deschrijver, G. Avolio, D. M. M.-P. Schreurs, T. Dhaene, **G. Crupi**, and L. Knockaert, "Microwave small-signal modeling of FinFETs using multi-parameter rational fitting method," *Electronics Letters*, vol. 47, no. 19, pp. 1084-1086, September 2011.

[R30] **G. Crupi**, D. M. M.-P. Schreurs, A. Caddemi, A. Raffo, F. Vanaverbeke, G. Avolio, G. Vannini, and W. De Raedt, "High-frequency extraction of the extrinsic capacitances for GaN HEMT technology," *IEEE Microwave and Wireless Components Letters*, vol. 21, no. 8, pp. 445-447, August 2011.

[R29] **G. Crupi**, A. Raffo, D. M. M.-P. Schreurs, G. Avolio, V. Vadalà, S. Di Falco, A. Caddemi, and G. Vannini, "Accurate GaN HEMT non-quasi-static large-signal model including dispersive effects," *Microwave and Optical Technology Letters*, vol. 53, no. 3, pp. 692-697, March 2011.

[R28] **G. Crupi**, A. Caddemi, D. M. M.-P. Schreurs, W. Wiatr, and A. Mercha, "Microwave noise modeling of FinFETs," *Solid-State Electronics*, vol. 56, no. 1, pp. 18-22, February 2011.

[R27] A. Raffo, G. Avolio, D. Schreurs, S. Di Falco, V. Vadalà, F. Scappaviva, **G. Crupi**, B. Nauwelaers, and G. Vannini "On the evaluation of the high-frequency load line in active devices," *International Journal of Microwave and Wireless Technologies*, vol. 3, no. 1, pp. 19-24, February 2011.

[R26] Z. Marinković, **G. Crupi**, A. Caddemi, and V. Marković, "Two neural approaches for small-signal modelling of GaAs HEMTs," *Journal of Automatic Control*, vol. 20, no. 1, pp. 39-44, December 2010.

[R25] **G. Crupi**, D. M. M.-P. Schreurs, and A. Caddemi, "Theoretical and experimental determination of onset and scaling of non-quasi-static phenomena for interdigitated FinFETs," *IET Circuits, Devices & Systems*, vol. 5, no. 6, pp. 531-538, November 2010.

[R24] **G. Crupi**, G. Avolio, D. M. M.-P. Schreurs, G. Paillonc y, A. Caddemi, and B. Nauwelaers, "Vector two-tone measurements for validation of nonlinear microwave FinFET model," *Microelectronic Engineering*, vol. 87, no. 10, pp. 2008-2013, October 2010.

[R23] Z. Marinković, **G. Crupi**, A. Caddemi, and V. Marković, "Comparison between analytical and neural approaches for multibias small signal modeling of microwave scaled FETs," *Microwave and Optical Technology Letters*, vol. 52, no. 10, pp. 2238-2244, October 2010.

[R22] **G. Crupi**, D. M. M.-P. Schreurs, A. Caddemi, "Accurate silicon dummy structure model for nonlinear microwave FinFET modeling," *Microelectronics Journal*, vol. 41, no. 9, pp. 574-578, September 2010.

[R21] A. Caddemi and **G. Crupi**, "On the noise measurements and modeling for on wafer HEMTs up to 26.5 GHz," *Microwave and Optical Technology Letters*, vol. 52, no. 8, pp. 1799-1803, August 2010.

[R20] A. Raffo, V. Vadalà, D. M. M.-P. Schreurs, **G. Crupi**, G. Avolio, A. Caddemi, and G. Vannini, "Nonlinear dispersive modeling of electron devices oriented to GaN power amplifier design," *IEEE Transactions on Microwave Theory and Techniques*, vol. 58, no. 4, pp. 710-718, April 2010.

[R19] **G. Crupi**, D. M. M.-P. Schreurs, A. Caddemi, A. Raffo, and G. Vannini, "Investigation on the non-quasi-static effect implementation for millimeter-wave FET models," *International Journal of RF and Microwave Computer-Aided Engineering*, vol. 20, no. 1, pp. 87-93, January 2010.

[R18] M. Homayouni, D. M. M.-P. Schreurs, **G. Crupi**, and B. Nauwelaers, "Technology independent non-quasi-static table-based nonlinear model generation," *IEEE Transactions on Microwave Theory and Techniques*, vol. 57, no. 12, pp. 2845-2852, December 2009.

[R17] **G. Crupi**, D. M. M.-P. Schreurs, A. Caddemi, I. Angelov, M. Homayouni, A. Raffo, G. Vannini, and B. Parvais, "Purely analytical extraction of an improved nonlinear FinFET model including non-quasi-static effects," *Microelectronic Engineering*, vol. 86, no. 11, pp. 2283-2289, November 2009.

[R16] A. Caddemi, **G. Crupi**, and A. Macchiarella, "On wafer scaled GaAs HEMTs: Direct and robust small signal modelling up to 50 GHz," *Microwave and Optical Technology Letters*, vol. 51, no. 8, pp. 1958-1963, August 2009.

[R15] **G. Crupi**, D. M. M.-P. Schreurs, and A. Caddemi, "On the small signal modeling of advanced microwave FETs: A comparative study," *International Journal of RF and Microwave Computer-Aided Engineering*, vol. 18, no. 5, pp. 417-425, September 2008.

[R14] **G. Crupi**, D. M. M.-P. Schreurs, I. Angelov, A. Caddemi, and B. Parvais, "Non-linear FinFET modeling: Lookup table and empirical approaches," *International Journal of Microwave and Optical Technology*, vol. 3, no. 3, pp. 157-164, July 2008.

[R13] **G. Crupi**, D. M. M.-P. Schreurs, M. Dehan, D. Xiao, A. Caddemi, A. Mercha, and S. Decoutere, "Analytical extraction of small and large signal models for FinFET varactors," *Solid-State Electronics*, vol. 52, no. 5, pp. 704-710, May 2008.

[R12] **G. Crupi**, D. M. M.-P. Schreurs, A. Raffo, A. Caddemi, and G. Vannini, "A new millimeter wave small-signal modeling approach for pHEMTs accounting for the output conductance time delay," *IEEE Transactions on Microwave Theory and Techniques*, vol. 56, no. 4, pp. 741-746, April 2008.

[R11] **G. Crupi**, D. M. M.-P. Schreurs, D. Xiao, A. Caddemi, B. Parvais, A. Mercha, and S. Decoutere, "Determination and validation of new nonlinear FinFET model based on lookup tables," *IEEE Microwave and Wireless Components Letters*, vol. 17, no. 5, pp. 361-363, May 2007.

[R10] **G. Crupi**, D. M. M.-P. Schreurs, B. Parvais, A. Caddemi, A. Mercha, and S. Decoutere, "Scalable and multibias high frequency modeling of multi fin FETs," *Solid-State Electronics*, vol. 50, no. 10/11, pp. 1780-1786, November/December 2006.

[R9] A. Caddemi, F. Catalfamo, **G. Crupi**, and N. Donato, "DC to microwave characterization and modeling of the cryogenic performance of low-noise HEMT's," *Microwave Review*, vol. 12, no. 2, pp. 17-28, November 2006.

[R8] **G. Crupi**, D. Xiao, D. M. M.-P. Schreurs, E. Limiti, A. Caddemi, W. De Raedt, and M. Germain, "Accurate multibias equivalent circuit extraction for GaN HEMTs," *IEEE Transactions on Microwave Theory and Techniques*, vol. 54, no. 10, pp. 3616-3622, October 2006.

[R7] A. Caddemi, **G. Crupi**, and N. Donato, "Microwave characterization and modeling of packaged HEMTs by a direct extraction procedure down to 30 K," *IEEE Transactions on Instrumentation and Measurement*, vol. 55, no. 2, pp. 465-470, April 2006.

[R6] A. Caddemi, **G. Crupi**, and N. Donato, "Temperature effects on DC and small signal RF performance of AlGaAs/GaAs HEMTs," *Microelectronics Reliability*, vol. 46, no. 1, pp. 169-173, January 2006.

[R5] A. Caddemi, **G. Crupi**, and N. Donato, "Impact of the self generated heat on the scalability of HEMTs," *Microelectronic Engineering*, vol. 82, no. 2, pp. 143-147, October 2005.

[R4] M. Alvaro, A. Caddemi, **G. Crupi**, and N. Donato, "Temperature and bias investigation of self heating effect and threshold voltage shift in pHEMT's," *Microelectronics Journal*, vol. 36, no. 8, pp. 732-736, August 2005.

[R3] A. Caddemi, **G. Crupi**, and N. Donato, "On the soft breakdown phenomenon in AlGaAs/InGaAs HEMT: An experimental study down to cryogenic temperature," *Solid-State Electronics*, vol. 49, no. 6, pp. 928-934, June 2005.

[R2] A. Caddemi, N. Donato, and **G. Crupi**, "A robust approach for the direct extraction of HEMT circuit elements vs. bias and temperature," *Electronics*, vol. 8, no. 1, pp. 14-17, May 2004.

[R1] A. Caddemi, **G. Crupi**, and N. Donato, "A robust and fast procedure for the determination of the small signal equivalent circuit of HEMTs," *Microelectronics Journal*, vol. 35, no. 5, pp. 431-436, May 2004.

CONFERENZE INTERNAZIONALI

[C110] M. Radojković, G. Gugliandolo, B. P. Stošić, M. Latino, G. Campobello, Z. Marinkovic, **G. Crupi**, and N. Donato, "Temperature-dependent modeling of SAW resonators based on artificial neural networks," *IEEE International Conference on Advanced Technologies, Systems and Services in Telecommunications* (TELSIKS), Nis, Serbia, 22-24 October 2025, pp. 63-66.

[C109] S. Li, X. Bao, Y. Huang, M. Latino, G. Gugliandolo, N. Donato, **G. Crupi**, and W. Hu, "Design of a dual-band microwave antenna for highly effective tumor ablation," *IEEE International Workshop on Metrology for Green Technologies, Renewable Energy and Ecological Sustainability* (IEEE MetroGREENST), Milano, Italy, 23-26 September 2025, pp. 38-42.

[C108] G. Gugliandolo, **G. Crupi**, V. Vadalà, R. Giofrè, A. Raffo, and N. Donato, "A straightforward fitting strategy based on the complex Lorentzian function to fully and systematically characterize the kink effect

in the output reflection coefficient of the GaN HEMT technology," *IEEE International Workshop on Metrology for AeroSpace* (IEEE MetroAeroSpace), Naples, Italy, 18-20 June 2025, pp. 706-710.

[C107] S. Liu, J. Li, G. Gugliandolo, M. Latino, **G. Crupi**, N. Donato, L. Fang, L. Si, and X. Bao, "Dielectric characterization of high-temperature liquids via resonant cavity perturbation technique," *IEEE International Workshop on Metrology for AeroSpace* (IEEE MetroAeroSpace), Naples, Italy, 18-20 June 2025, pp. 701-705.

[C106] N. Choupan, V. Vadalà, G. Bosi, C. Ramella, M. Grassi, **G. Crupi**, R. Giofrè, A. Raffo, and G. Vannini, "Characterization procedure for effective evaluation of III-V compound semiconductor technology," *IEEE International Workshop on Integrated Nonlinear Microwave and Millimetre-wave Circuits* (INMMiC), Torino, Italy, 10-11 April 2025, pp. 1-4.

[C105] B. Jin, **G. Crupi**, and J. Cai, "Design of multi-octave RF PA based on PSO method with individually self-adaptive hyperparameters," *IEEE International Workshop on Integrated Nonlinear Microwave and Millimetre-wave Circuits* (INMMiC), Torino, Italy, 10-11 April 2025, pp. 1-3.

[C104] C. Yin, J. Li, L. Fang, G. Gugliandolo, N. Donato, L. Wang, **G. Crupi**, H. Sun, and X. Bao, "Broadband characterization of liquids at millimeter waves by using an U-shaped bent waveguide," *IEEE United Conference on Millimetre Waves and Terahertz Technologies* (UCMMT), Palermo, Italy, 21-24 August 2024, pp. 98-101 (Invited Talk).

[C103] **G. Crupi**, V. Vadalà, G. Bosi, G. Gugliandolo, X. Bao, R. Giofrè, A. Raffo, P. Colantonio, N. Donato, and G. Vannini, "An overview of the impact of the temperature on the small- and large-signal performance of 0.15-µm microwave GaN HEMTs," *IEEE MTT-S International Wireless Symposium* (IEEE IWS), Beijing, China, 16-19 May 2024, pp. 1-3 (Invited Talk).

[C102] Y. Yang, H. Yuan, L. Si, **G. Crupi**, L. Wang, G. Gugliandolo, N. Donato, H. Sun, and X. Bao, "Extraction of complex permittivity and complex permeability of liquids by using a grounded coplanar waveguide with upper shielding," *IEEE International Symposium on Medical Measurements and Applications* (MeMeA), Eindhoven, The Netherlands, 26-28 June 2024, pp. 1-5.

[C101] G. Bosi, A. Raffo, R. Gioffrè, V. Vadalà, **G. Crupi**, P. Colantonio, and G. Vannini, "Experimental investigation on class-E and class-F^{-1} operation under square-waveform excitation," *IEEE International Workshop on Integrated Nonlinear Microwave and Millimetre-wave Circuits* (INMMiC), Aveiro, Portugal, 8-10 November 2023, pp. 1.4.

[C100] X. Tang, E. Liu, **G. Crupi**, and J. Cai, "A novel temperature-included CSWPL model for GaN HEMTs," *IEEE International Conference on Circuits and Systems* (IEEE ICCS), Huzhou, China, 27-30 October 2023, pp. 85-89.

[C99] J. Cai, G. Gugliandolo, Z. Marinkovic, M. Latino, E. Fazio, G. Bosi, A. Raffo, **G. Crupi**, and N. Donato, "GaN HEMT small-signal modeling using an optimization strategy based on gated recurrent unit networks," *IEEE International Conference on Metrology for eXtended Reality, Artificial Intelligence and Neural Engineering* (IEEE MetroXRAINE), Milano, Italy, 25-27 October 2023, pp. 422-426.

[C98] S. Li, X. Bao, G. Gugliandolo, H. Yuan, J. Li, L. Shao, M. Du, N. Donato, Z. Marinkovic, **G. Crupi**, L. Fang, L. Si, and H. Sun, "Defect modeling during the SLM process for manufacturing microwave devices," *IEEE International Conference on Metrology for eXtended Reality, Artificial Intelligence and Neural Engineering* (IEEE MetroXRAINE), Milano, Italy, 25-27 October 2023, pp. 412-416.

[C97] G. Gugliandolo, Z. Marinkovic, X. Bao, C. De Marchis, F. Battaglia, M. Latino, G. Campobello, **G. Crupi**, and N. Donato, "Artificial neural network modeling of microwave sensors for dielectric liquids characterization," *IEEE International Conference on Metrology for eXtended Reality, Artificial Intelligence and Neural Engineering* (IEEE MetroXRAINE), Milano, Italy, 25-27 October 2023, pp. 401-405.

[C96] X. Tang, B. Liu, **G. Crupi**, and J. Cai, "An overview of nonlinear behavioral modeling approaches for microwave GaN power transistors," *IEEE International Conference on Advanced Technologies, Systems and Services in Telecommunications* (TELSIKS), Nis, Serbia, 25-27 October 2023, pp. 43-49 (Invited Talk).

[C95] G. Gugliandolo, **G. Crupi**, Z. Marinkovic, V. Vadalà, A. Raffo, N. Donato, and G. Vannini, "GaN HEMT current-gain peak: An insight into the effects of the bias condition," *IEEE International Conference on Advanced Technologies, Systems and Services in Telecommunications* (TELSIKS), Nis, Serbia, 25-27 October 2023, pp. 66-69.

[C94] G. Gugliandolo, A. Altadonna, A. Arena, M. Arena, L. Calabrese, G. Campobello, **G. Crupi**, D. Iannazzo, F. Passalacqua, F. Todesco, M. G. Xibilia, and N. Donato, "Microwave transducers for moisture content characterization of cultural heritage materials," *IEEE International Conference on Metrology for Archaeology and Cutural Heritage* (IEEE MetroArchaeo), Rome, Italy, 19-21 October 2023, pp. 598-602.

[C93] Z. Marinkovic, J. Cai, G. Gugliandolo, M. Latino, E. Fazio, G. Bosi, A. Raffo, **G. Crupi**, and N. Donato, "Robustness validation of a mm-wave model based on GRU neural networks for a GaN power HEMT," *IEEE International Conference on Microelectronics* (MIEL), Nis, Serbia, 16-18 October 2023, pp. 1-4.

[C92] G. Gugliandolo, **G. Crupi**, L. Calabrese, D. Iannazzo, M. Latino, A. Quattrocchi, and N. Donato, "Resonance-based microwave transducer for contactless salinity detection," *IEEE International Workshop on Metrology for the Sea* (IEEE MetroSea), Malta, Italy, 4-6 October 2023, pp. 284-288.

[C91] **G. Crupi**, M. Latino, G. Gugliandolo, Z. Marinkovic, J. Cai, E. Fazio, and N. Donato, "GaN HEMT modeling versus bias point and gate width," *IEEE International Scientific Conference on Information, Communication and Energy Systems and Technologies* (ICEST), Niš, Serbia, 29 June - July 1 2023, pp. 1-4.

[C90] G. Gugliandolo, A. Quattrocchi, G. Campobello, **G. Crupi**, and N. Donato, "On the development of a high-temperature superconducting band-pass filter," *15th International Workshop on High Temperature Superconductors in High Frequency and Fields* (HTSHFF), Giardini Naxos, Italy, 10-13 September 2023, pp. 1-2.

[C89] S. Das, T. R. Lenka, F. A. Talukdar, **G. Crupi**, and H. P. T. Nguyen, "Design and performance analysis of electron blocking layer free GaN/AlInN/GaN nanowire deep-ultraviolet LED," *IEEE International Conference on Emerging Electronics* (ICEE), Bangalore, India, 11-14 December 2022, pp. 1-5.

[C88] C. P. Rao, T. R. Lenka, R. Singh, H. P. T. Nguyen, N. El. I. Boukortt, and **G. Crupi**, "Breakdown characteristics study of III-nitride/ β -Ga2O3 nano-HEMT as a function of field-plate length & AlN nucleation layer thickness," *IEEE Calcutta Conference* (CALCON), Kolkata, India, 10-11 December 2022.

[C87] G. Gugliandolo, X. Bao, H. Yuan, J. Li, J. Bao, **G. Crupi**, and N. Donato, "A split-ring resonator with interdigitated electrodes aimed at the dielectric characterization of liquid mixtures (Invited Paper)," *IEEE International Conference on Integrated Circuits, Technologies and Applications* (ICTA), Xi'an, Shaanxi, China, 28-30 October 2022, pp. 137-141 (Invited Talk).

[C86] Z. Marinkovic, G. Gugliandolo, G. Campobello, **G. Crupi**, and N. Donato, "A combined approach using Lorentzian fitting and ANNs for microwave resonator modeling," *IEEE International Conference on Metrology for eXtended Reality, Artificial Intelligence and Neural Engineering* (IEEE MetroXRAINE), Rome, Italy, 26-28 October 2022, pp. 608-612.

[C85] X. Bao, Z. Wang, J. Bao, G. Gugliandolo, H. Yuan, Z. Zhao, J. Li, N. Donato, **G. Crupi**, B. Nauwelaers, and D. M. M.-P. Schreurs**,** "Salt content detection using a microwave sensor," *IEEE International Workshop on Metrology for the Sea* (IEEE MetroSea 2022), Milazzo, Italy, 3-5 October 2022, pp. 479-483.

[C84] G. Gugliandolo, A. Quattrocchi, M. Latino, **G. Crupi**, and N. Donato, "A low-cost measurement system for microplastic detection in marine environment: A proof of concept," *IEEE International Workshop on Metrology for the Sea* (IEEE MetroSea 2022), Milazzo, Italy, 3-5 October 2022, pp. 23-27.

[C83] S. Das, T. R. Lenka, F. A. Talukdar, R. T. Velpula, H. P. T. Nguyen, and **G. Crupi**, "Influence of prestrained graded InGaN interlayer on the optical characteristics of InGaN/GaN MQW-based LEDs," *International Conference on Numerical Simulation of Optoelectronic Devices* (NUSOD), Turin, Italy, 12-16 September 2022, pp. 91-92.

[C82] G. Gugliandolo, A. Alimenti, K. Torokhtii, N. Pompeo, G. Campobello, **G. Crupi**, E. Silva, and N. Donato, "Design and test of an inkjet-printed microwave interdigital capacitor on flexible Kapton substrate," *IMEKO TC-4 International Symposium*, Brescia, Italy, 12-14 September 2022, pp. 346-351.

[C81] L. Wang, X. Bao, Y. Wang, **G. Crupi**, and A. Zhang, "A localized and minimally invasive tumor treatment based on a frequency adjustable microwave ablation method," *IEEE International Symposium on Medical Measurements and Applications* (MeMeA), Giardini Naxos, Italy, 22-24 June 2022, pp. 1-6.

[C80] Z. Marinkovic, G. Gugliandolo, A. Quattrocchi, G. Campobello, **G. Crupi**, and N. Donato, "Development and experimental validation of an artificial neural network model of a microwave microstrip resonator for humidity sensing," *IEEE International Symposium on Medical Measurements and Applications* (MeMeA), Giardini Naxos, Italy, 22-24 June 2022, pp. 1-6.

[C79] G. Campobello, C. De Marchis, G. Gugliandolo, A. Giacobbe, **G. Crupi**, and N. Donato, "A simple and efficient near-lossless compression algorithm for surface electromyography signals," *IEEE International Symposium on Medical Measurements and Applications* (MeMeA), Giardini Naxos, Italy, 22-24 June 2022, pp. 1-6.

[C78] G. Campobello, A. Quercia, G. Gugliandolo, A. Segreto, E. Tatti, M. F. Ghilardi, **G. Crupi**, A. Quartarone, and N. Donato, "Theoretical and experimental investigation of an efficient SVD-based near-lossless compression algorithm for multichannel EEG signals," *IEEE International Symposium on Medical Measurements and Applications* (MeMeA), Giardini Naxos, Italy, 22-24 June 2022, pp. 1-6.

[C77] G. Gugliandolo, G. Vermiglio, G. Cutroneo, G. Campobello, **G. Crupi**, and N. Donato, "Inkjet-printed capacitive coupled ring resonators aimed at the characterization of cell cultures," *IEEE International Symposium on Medical Measurements and Applications* (MeMeA), Giardini Naxos, Italy, 22-24 June 2022, pp. 1-5.

[C76] G. Gugliandolo, **G. Crupi**, G. Campobello, and N. Donato, "IoT powered detection and alarming system for hazardous gases in domestic environment," *IEEE International Workshop on Metrology for Living Environment* (IEEE MetroLivEnv), Cosenza, Italy, 25-27 May 2022, pp. 247-251.

[C75] V. Vadalà, **G. Crupi**, R. Giofrè, G. Bosi, A. Raffo, and G. Vannini, "mm-Wave GaN HEMT technology: Advances, experiments, and analysis," *IEEE Mediterranean Microwave Symposium* (MMS), Pizzo Calabro, Italy, 9-13 May 2022, pp. 1-6.

[C74] G. Gugliandolo, Z. Marinkovic, G. Campobello, **G. Crupi**, and N. Donato, "Microwave resonator for humidity detection applications: A comparative analysis between ANNs and Lorentzian fitting method," *IEEE Mediterranean Microwave Symposium* (MMS), Pizzo Calabro, Italy, 9-13 May 2022, pp. 1-5.

[C73] G. Gugliandolo, Z. Marinkovic, A. Quattrocchi, **G. Crupi**, and N. Donato, "Development of an inkjet-printed interdigitated device: CAD, fabrication, and testing," *IEEE International Conference on Integrated Circuits, Technologies and Applications* (ICTA), Zhuhai, Guangdong, China, 24-26 November 2021, pp. 153-154.

[C72] L. Wang, X. Bao, C. Liu, Y. Wang, **G. Crupi**, and A. Zhang, "An inexpensive coaxial balun-free antenna for microwave tumor treatment," *IEEE International Conference on Advanced Technologies, Systems and Services in Telecommunications* (TELSIKS), Nis, Serbia, 20-22 October 2021, pp. 125-128.

[C71] S. Das, T. R. Lenka, F. A. Talukdar, R. T. Velpula, B. Jain, H. P. T. Nguyen, and **G. Crupi**, "Effects of spontaneous polarization on luminous power of GaN/AlGaN multi-quantum well UV-LED for light technology," *IEEE International Conference on Advanced Technologies, Systems and Services in Telecommunications* (TELSIKS), Nis, Serbia, 20-22 October 2021, pp. 335-338.

[C70] Z. Marinkovic, G. Gugliandolo, A. Quattrocchi, **G. Crupi**, and N. Donato, "Neural modeling of the surface acoustic wave resonator admittance parameters," *IEEE International Conference on Advanced Technologies, Systems and Services in Telecommunications* (TELSIKS), Nis, Serbia, 20-22 October 2021, pp. 129-132.

[C69] M. A. Alim, C. Gaquiere, and **G. Crupi**, "Experimental investigation on the bias and temperature dependence of the forward transmission coefficient for HEMT technologies," *IEEE International Conference on Advanced Technologies, Systems and Services in Telecommunications* (TELSIKS), Nis, Serbia, 20-22 October 2021, pp. 70-73.

[C68] N. Boukortt, A. M. Alamri, A. Garcia-Loureiro, Y. M. Abdulraheem, M. Seyyedhamzeh, and **G. Crupi**, "Effects of the gate dielectric material on the performance of a 14-nm SOI FinFET," *IEEE International Conference on Advanced Technologies, Systems and Services in Telecommunications* (TELSIKS), Nis, Serbia, 20-22 October 2021, pp. 74-77.

[C67] Z. Marinkovic, G. Gugliandolo, G. Campobello, **G. Crupi**, and N. Donato, "Extraction of the resonant parameters for surface acoustic wave resonators: ANNs versus Lorentzian fitting method," *IEEE International Conference on Microelectronics* (MIEL), Nis, Serbia, 12-14 September 2021, pp. 281-284.

[C66] Z. Marinkovic, G. Gugliandolo, G. Campobello, **G. Crupi**, and N. Donato, "Application of artificial neural networks for modeling of the frequency-dependent performance of surface acoustic wave resonators," *IEEE International Scientific Conference on Information, Communication and Energy Systems and Technologies* (ICEST), Sozopol, Bulgaria, 16-18 June 2021, pp. 145-148.

[C65] G. Campobello, A. Quercia, G. Gugliandolo, A. Segreto, E. Tatti, M. F. Ghilardi, **G. Crupi**, A. Quartarone, and N. Donato, "An efficient near-lossless compression algorithm for multichannel EEG signals," *IEEE International Symposium on Medical Measurements and Applications* (MeMeA), Neuchâtel, Switzerland, 23-25 June 2021, pp. 1-6.

[C64] G. Gugliandolo, G. Campobello, Z. Marinkovic, **G. Crupi**, A. Quartarone, G. Neri, and N. Donato, "Development of a multi-transduction system for breath analysis in neurodegenerative diseases," *IEEE International Symposium on Medical Measurements and Applications* (MeMeA), Neuchâtel, Switzerland, 23-25 June 2021, pp. 1-6.

[C63] G. Gugliandolo, D. Aloisio, G. Campobello, **G. Crupi**, and N. Donato, "Development and metrological evaluation of a microstrip resonator for gas sensing applications," *IMEKO TC-4 International Symposium*, Palermo, Italy, 14-16 September 2020, pp. 1-4.

[C62] Z. Marinkovic, G. Gugliandolo, M. Latino, G. Campobello, **G. Crupi**, and N. Donato, "Artificial neural network modeling of interdigital capacitor sensor for oxygen detection," *IEEE International Scientific Conference on Information, Communication and Energy Systems and Technologies* (ICEST), Niš, Serbia, 10-12 September 2020, pp. 195-198.

[C61] G. Gugliandolo, M. Latino, G. Campobello, Z. Marinkovic, **G. Crupi**, and N. Donato, "On the gas sensing properties of microwave transducers," *IEEE International Scientific Conference on Information, Communication and Energy Systems and Technologies* (ICEST), Niš, Serbia, 10-12 September 2020, pp. 191-194.

[C60] G. Campobello, **G. Crupi**, and N. Donato, "Cryogenic electrical characterization and equivalent-circuit modeling of SAW resonators," *IEEE International Instrumentation and Measurement Technology Conference* (I2MTC), Dubrovnik, Croatia, 25-28 May 2020, pp. 1-5.

[C59] L. Boglione, J. Roussos, A. Caddemi, E. Cardillo, and **G. Crupi**, "Device noise parameter characterization: Towards extraction automation," *Automatic RF Techniques Group Conference* (ARFTG), San Antonio, TX, USA, 26-29 January 2020, pp. 1-4.

[C58] **G. Crupi**, A. Raffo, Z. Marinković, D. M. M.-P. Schreurs, and A. Caddemi, "A comprehensive and critical overview of the kink effect in S_{22} for HEMT technology," *IEEE International Conference on Advanced Technologies, Systems and Services in Telecommunications* (TELSIKS), Nis, Serbia, 23-35 October 2019, pp. 13-20 (Invited Talk).

[C57] **G. Crupi**, X. Bao, P. Barmuta, I. Ocket, D. M. M.-P. Schreurs, and B. Nauwelaers, "Microfluidic biosensor for bioengineering: High-frequency equivalent-circuit modeling of interdigital capacitor," *IEEE International Conference on Advanced Technologies, Systems and Services in Telecommunications* (TELSIKS), Nis, Serbia, 23-35 October 2019, pp. 315-318.

[C56] Z. Marinković, **G. Crupi**, V. Vadalà, A. Raffo, A. Caddemi, V. Marković, and D. M. M.-P. Schreurs, "Temperature dependent small-signal neural modeling of high-periphery GaN HEMTs," *IEEE IEEE*

International Conference on Advanced Technologies, Systems and Services in Telecommunications (TELSIKS), Nis, Serbia, 23-35 October 2019, pp. 33-36.

[C55] Z. Marinković, **G. Crupi**, A. Caddemi, V. Marković, and D. M. M.-P. Schreurs, "Artificial neural networks for small-signal modeling of advanced microwave transistors: Does the device technology influence modeling?," *European Microwave Conference in Central Europe* (EuMCE) *Workshop on "Advances in Smart Modeling Techniques for Microwave Engineering"*, Prague, Czech Republic, 13-15 May 2019.

[C54] A. Jarndal, A. S. Hussein, **G. Crupi**, and A. Caddemi, "Reliable PSO based noise modeling approach applied to GaN HEMTs," *IEEE International Workshop on Integrated Nonlinear Microwave and Millimetre-wave Circuits* (INMMiC), Brive La Gaillarde, France, 5-6 July 2018, pp. 1-3.

[C53] A. Caddemi, E. Cardillo, and **G. Crupi**, "HEMT sensitivity to optical radiation: Distinguishing microwave noise aspects," *International Symposium on SiO_2 Advanced Dielectrics and Related Devices* (SiO_2), Bari, Italy, 11-13 June 2018 (Invited Talk).

[C52] **G. Crupi**, Z. Marinković, D. M. M.-P. Schreurs, V. Marković, and A. Caddemi, "Multi-bias equivalent circuit for MOSFET modelling," *IEEE International Conference on Advanced Technologies, Systems and Services in Telecommunications* (TELSIKS), Nis, Serbia, 18-20 October 2017, pp. 347-350.

[C51] Z. Marinković, **G. Crupi**, D. M. M.-P. Schreurs, A. Caddemi, and V. Marković, "Neural procedure for microwave MOSFET modelling versus bias and gate length," *IEEE International Conference on Advanced Technologies, Systems and Services in Telecommunications* (TELSIKS), Nis, Serbia, 18-20 October 2017, pp. 166-169.

[C50] A. Petrocchi, **G. Crupi**, V. Vadalà, G. Avolio, A. Raffo, D. M. M.-P. Schreurs, A. Caddemi, and G. Vannini, "Thermal characterization of high-power GaN HEMTs up to 65 GHz," *IEEE International Conference on Advanced Technologies, Systems and Services in Telecommunications* (TELSIKS), Nis, Serbia, 18-20 October 2017, pp. 162-165.

[C49] Z. Marinković, **G. Crupi**, A. Caddemi, and V. Marković, "GaN HEMT small-signal modelling: Neural networks versus equivalent circuit," *IEEE International Conference on Microelectronics* (MIEL), Nis, Serbia, 9-11 October 2017, pp. 153-156.

[C48] N. Boukortt, B. Hadri, S. Patanè, A. Caddemi, **G. Crupi**, and E. Cardillo, "Electrical characteristic of SOI TG n-FinFET," *Materials for Advanced Metalization* (MAM), Brussels, Belgium, 20-23 March 2016.

[C47] N. Boukortt, A. Caddemi, E. Cardillo, **G. Crupi**, B. Hadri, and S. Patanè, "Inverse modeling of an AlGaAs/GaAs HEMT from DC and microwave measurements," *IEEE International Conference on Advanced Technologies, Systems and Services in Telecommunications* (TELSIKS), Nis, Serbia, 14-17 October 2015, pp. 94-97.

[C46] A. Caddemi, E. Cardillo, **G. Crupi**, and G. Salvo, "Performance analysis of a microwave low-noise amplifier under laser illumination," *IEEE International Conference on Advanced Technologies, Systems and Services in Telecommunications* (TELSIKS), Nis, Serbia, 14-17 October 2015, pp. 90-93.

[C45] Z. Marinković, **G. Crupi**, G. Avolio, V. Marković, A. Caddemi, and D. M. M.-P. Schreurs, "Neural network modelling of GaAs pHEMTs suitable for millimeter-wave mixer design," *IEEE International Workshop on Integrated Nonlinear Microwave and Millimetre-wave Circuits* (INMMiC), Taormina, Italy, 1-2 October 2015, pp. 1-3.

[C44] A. Nalli, A. Raffo, **G. Crupi**, S. D'Angelo, D. Resca, F. Scappaviva, G. Salvo, A. Caddemi, and G. Vannini, "GaN HEMT modelling through 50-Ω NF measurements," *IEEE International Workshop on Integrated Nonlinear Microwave and Millimetre-wave Circuits* (INMMiC), Taormina, Italy, 1-2 October 2015, pp. 1-3.

[C43] A. Caddemi, **G. Crupi**, and G. Salvo, "Light sensitivity of GaAs pHEMT's: A close insight into the microwave noise behavior," *European Microwave Integrated Circuits Conference* (EuMIC), Rome, Italy, 6-7 October 2014, pp. 214-217.

[C42] A. Nalli, A. Raffo, **G. Crupi**, S. D'Angelo, D. Resca, G. Salvo, F. Scappaviva, A. Caddemi, and G. Vannini, "A scalable HEMT noise model based on FW-EM analyses," *European Microwave Integrated Circuits Conference* (EuMIC), Rome, Italy, 6-7 October 2014, pp. 1420-1423.

[C41] G. Avolio, A. Raffo, I. Angelov, V. Vadalà, **G. Crupi**, A. Caddemi, G. Vannini, and D. M. M.-P. Schreurs, "Nonlinear model for 40-GHz cold-FET operation," *IEEE International Workshop on Integrated Nonlinear Microwave and Millimetre-wave Circuits* (INMMiC), Leuven, Belgium, 2-4 April 2014, pp. 1-3.

[C40] Z. Marinković, **G. Crupi**, A. Raffo, G. Bosi, G. Avolio, V. Marković, A. Caddemi, D. M. M.-P. Schreurs, and G. Vannini, "A neural network approach for nonlinear modelling of LDMOSFETs," *IEEE International Workshop on Integrated Nonlinear Microwave and Millimetre-wave Circuits* (INMMiC), Leuven, Belgium, 2-4 April 2014, pp. 1-3.

[C39] **G. Crupi**, A. Raffo, D. M. M.-P. Schreurs, G. Avolio, A. Caddemi, and G. Vannini, "Modelling insight into the resonance frequencies of the microwave impedance parameters for GaAs HEMTs," *IEEE International Conference on Telecommunications in Modern Satellite, Cable and Broadcasting Service* (TELSIKS), Nis, Serbia, 16-19 October 2013, pp. 184-187.

[C38] A. Caddemi, **G. Crupi**, E. Fazio, S. Patanè, and G. Salvo, "Analysis of microwave noise parameters of scaled AlGaAs/GaAs HEMT's under light exposure," *IEEE International Conference on Telecommunications in Modern Satellite, Cable and Broadcasting Service* (TELSIKS), Nis, Serbia, 16-19 October 2013, pp. 178-183 (Invited Talk).

[C37] Z. Marinković, **G. Crupi**, D. M. M.-P. Schreurs, A. Caddemi, and V. Marković, "Artificial neural network modeling for transistors and varactors in FinFET technology," *IEEE International Conference on Telecommunications in Modern Satellite, Cable and Broadcasting Service* (TELSIKS), Nis, Serbia, 16-19 October 2013, pp. 188-191.

[C36] G. Avolio, A. Raffo, I. Angelov, **G. Crupi**, G. Vannini, and D. M. M.-P. Schreurs, "A novel technique for the extraction of nonlinear model for microwave transistors under dynamic-bias operation," *International Microwave Symposium* (IMS), Seattle, Washington, USA, 2-7 June 2013.

[C35] **G. Crupi**, A. Raffo, G. Sivverini, G. Bosi, G. Avolio, D. M. M.-P. Schreurs, A. Caddemi, and G. Vannini "Non-linear look-up table modeling of GaAs HEMTs for mixer application," *IEEE International Workshop on Integrated Nonlinear Microwave and Millimetre-wave Circuits* (INMMiC), Dublin, Ireland, 3-4 September 2012, pp. 1-3.

[C34] G. Avolio, D. M. M.-P. Schreurs, A. Raffo, I. Angelov, **G. Crupi**, G. Vannini, and B. Nauwelaers, "Waveforms-based large-signal identification of transistor models," *International Microwave Symposium* (IMS), Montreal, Canada, 17-22 June 2012, pp. 1-3.

[C33] V. Vadalà, A. Raffo, G. Bosi, **G. Crupi**, and G. Vannini, "Transistor vector load-pull characterization for millimeter-wave power amplifier design," *Automatic RF Techniques Group Conference* (ARFTG), Montreal, Canada, 22 June 2012, pp. 1-3.

[C32] D. M. M.-P. Schreurs, G. Avolio, A. Raffo, G. Vannini, **G. Crupi**, and A. Caddemi, "Time-domain waveform based extraction of FinFET non-linear I-V model," *International Conference Mixed Design of Integrated Circuits and Systems* (MIXDES), Wrocław, Poland, 21-26 May 2012, pp. 84-87.

[C31] Z. Marinković, **G. Crupi**, D. M. M.-P. Schreurs, A. Caddemi, and V. Marković, "High-frequency multi-bias small-signal neural modeling for FinFET," *IEEE International Conference on Microelectronics* (MIEL), Nis, Serbia, 13-16 May 2012, pp. 265-268.

[C30] **G. Crupi**, D. M. M.-P. Schreurs, G. Avolio, A. Caddemi, A. Raffo, and G. Vannini, "De-embedding: linear versus non-linear," *European Microwave Week* (EuMW) *Workshop on "From De-embedding to Waveform Engineering"*, Manchester, UK, 9 October 2011, pp. 1-24.

[C29] G. Avolio, A. Raffo, D. M. M.-P. Schreurs, **G. Crupi**, G. Vannini, and B. Nauwelaers, "Bias and frequency dispersion of dynamic I-V characteristics in microwave transistors," *European Microwave Integrated Circuits Conference* (EuMIC), Manchester, UK, 10-11 October 2011, pp. 93-96.

[C28] **G. Crupi**, A. Raffo, D. M. M.-P. Schreurs, G. Avolio, V. Vadalà, S. Di Falco, A. Caddemi, and G. Vannini, "GaN HEMT large-signal model accounting for both low-frequency dispersion and high-frequency non-quasi-static effects," *IEEE International Conference on Telecommunications in Modern Satellite, Cable and Broadcasting Service* (TELSIKS), Nis, Serbia, 5-8 October 2011, pp. 234-237.

[C27] D. M. M.-P. Schreurs, Z. Marinković, and **G. Crupi**, "Team projects for ICT master students: Evaluation and case studies," *IEEE International Conference on Telecommunications in Modern Satellite, Cable and Broadcasting Service* (TELSIKS), Nis, Serbia, 5-8 October 2011, pp. 361-364.

[C26] Z. Marinković, **G. Crupi**, D. M. M.-P. Schreurs, A. Caddemi, and V. Markovic, "Artificial neural network based modeling of FinFET forward transmission coefficient," *IEEE International Conference on Telecommunications in Modern Satellite, Cable and Broadcasting Service* (TELSIKS), Nis, Serbia, 5-8 October 2011, pp. 238-241.

[C25] Z. Marinković, **G. Crupi**, D. Schreurs, V. Markovic, and A. Caddemi, "Neural modeling of the Y_{21} parameter of microwave FinFETs," *Conference for Electronics, Telecommunications, Computers, Automatic Control and Nuclear Engineering* (ETRAN), Banja Vrucica, Teslic, Bosnia and Herzegovina, 6-9 June, 2011, pp. MT3.21-1-MT3.21-4.

[C24] P. Barmuta, G. Avolio, D. M. M.-P. Schreurs, A. Raffo, **G. Crupi**, K. Czuba, and G. Vannini "Temperature dependent vector large-signal measurements," *IEEE International Workshop on Integrated Nonlinear Microwave and Millimetre-wave Circuits* (INMMiC), Vienna, Austria, 18-19 April 2011, pp. 21-24.

[C23] G. Avolio, D. M. M.-P. Schreurs, A. Raffo, **G. Crupi**, G. Vannini, and B. Nauwelaers, "A de-embedding procedure oriented to the determination of FET intrinsic I-V characteristics from high-frequency large-signal measurements," *Automatic RF Techniques Group Conference* (ARFTG), Clearwater, FL, USA, 30 November - 3 December 2010, pp. 1-6.

[C22] G. Avolio, D. M. M.-P. Schreurs, A. Raffo, **G. Crupi**, G. Vannini, and B. Nauwelaers, "Non-linear measurement techniques for the low- and high-frequency characterization of microwave active devices," *Automatic RF Techniques Group Conference* (ARFTG) *Workshop on "Nonlinear measurements to investigate memory effects of RF transistors and active devices"*, Clearwater, FL, USA, 30 November - 1 December 2010.

[C21] **G. Crupi**, A. Caddemi, D. M. M.-P. Schreurs, A. Raffo, G. Avolio, M. Homayouni, and G. Vannini, "Non-quasi-static modeling of the intrinsic Y_{22} for GaN, Si, and GaAs mm-wave FET technologies," *European Radar Conference* (EuRAD), Paris, France, 30 September - 1 October 2010, pp. 316-319.

[C20] Z. Marinković, **G. Crupi**, A. Caddemi, and V. Marković, "Development of a neural approach for bias-dependent scalable small-signal equivalent circuit modeling of GaAs HEMTs," *European Microwave Integrated Circuits Conference* (EuMIC), Paris, France, 27-28 September 2010, pp. 182-185.

[C19] Z. Marinković, **G. Crupi**, A. Caddemi, and V. Marković, "On the neural approach for FET small-signal modelling up to 50 GHz," *Symposium on Neural Network Applications in Electrical Engineering* (NEUREL), Belgrade, Serbia, 23-25 September 2010, pp. 89-92.

[C18] D. M. M.-P. Schreurs, M. Homayouni, G. Avolio, **G. Crupi**, and A. Caddemi, "Capabilities and limitations of equivalent circuit models for modeling advanced Si FET devices," *International Conference Mixed Design of Integrated Circuits and Systems* (MIXDES), Wrocław, Poland, 24-26 June 2010, pp. 70-74.

[C17] W. Wiatr, **G. Crupi**, A. Caddemi, A. Mercha, and D. M. M.-P. Schreurs, "Source-pull characterization of FinFET noise," *International Conference Mixed Design of Integrated Circuits and Systems* (MIXDES), Wrocław, Poland, 24-26 June 2010, pp. 425-430.

[C16] M. Homayouni, D. M. M.-P. Schreurs, **G. Crupi**, G. Avolio, and B. Nauwelaers, "Evaluation of lookup table non-quasi-static nonlinear models at microwave and mm-wave frequencies," *IEEE International Workshop on Integrated Nonlinear Microwave and Millimetre-wave Circuits* (INMMiC), Goteborg, Sweden, 26-27 April 2010, pp. 172-175.

[C15] **G. Crupi**, D. M. M.-P. Schreurs, A. Caddemi, I. Angelov, R. Liu, W. De Raedt, and M. Germain, "Combined empirical and look-up table approach for non-quasi-static modelling of GaN HEMTs," *IEEE International Conference on Telecommunications in Modern Satellite, Cable and Broadcasting Service* (TELSIKS), Nis, Serbia, 7-9 October 2009, pp. 40-43.

[C14] A. Caddemi, **G. Crupi**, and A. Macchiarella, "Extraction and analysis of noise parameters of on wafer HEMTs up to 26.5 GHz," *AIP Proceeding on the 20th International Conference on Noise and Fluctuations* (ICNF), Pisa, Italy, 14-19 June 2009, vol. 1129, pp. 615-618.

[C13] D. M. M.-P. Schreurs, M. Myslinski, **G. Crupi**, D. Xiao, M. Homayouni, and G. Avolio, "Optimizing (non-)linear measurements for model construction and validation," *International Microwave Symposium* (IMS) *Workshop on* "*Parameter Extraction Strategies for Compact Transistor Models*", Boston, Massachusetts, USA, 7-12 June 2009, pp. 1-20.

[C12] D. M. M.-P. Schreurs, **G. Crupi**, and A. Caddemi, "Microwave modelling of emerging device technologies," *International Conference Semiconductor Dresden* (SCD), Dresden, Germany, 29-30 April 2009, pp. 1-4 (Invited Talk).

[C11] M. Myslinski, **G. Crupi**, M. Vanden Bossche, D. M. M.-P. Schreurs, and B. Nauwelaers, "Using large-signal measurements for transistor characterization and model verification in a device modeling program," *International MOS-AK Meeting*, San Francisco, CA, 13 December 2008, pp. 1-34.

[C10] M. Homayouni, D. M. M.-P. Schreurs, **G. Crupi**, and B. Nauwelaers, "Non-quasi-static nonlinear model for FinFETs using higher-order sources," *IEEE International Workshop on Integrated Nonlinear Microwave and Millimetre-wave Circuits* (INMMiC), Malaga, Spain, 24-25 November 2008, pp. 13-16.

[C9] **G. Crupi**, D. M. M.-P. Schreurs, I. Angelov, A. Caddemi, M. Homayouni, and B. Parvais, "Direct extraction of table based non-linear device models," *European Microwave Week* (EuMW) *Workshop on "Advances in Characterization and Modeling of Emerging Low-Power and High-Power Devices"*, Amsterdam, Netherlands, 27 October 2008, pp. 97-119.

[C8] L. Pantisano, L. Trojman, J. Mitard, B. DeJaeger, S. Severi, G. Eneman, **G. Crupi**, T. Hoffmann, I. Ferain, M. Meuris, and M. Heyns, "Fundamentals and extraction of velocity saturation in sub-100 nm (110)-Si and (100)-Ge," *IEEE Symposium on VLSI Technology*, Honolulu, Hawaii, 17-19 June 2008, pp. 52-53.

[C7] **G. Crupi**, A. Caddemi, D. M. M.-P. Schreurs, M. Homayouni, I. Angelov, and B. Parvais, "Analysis of quasi-static assumption in nonlinear FinFET model," *17th IEEE International Conference on Microwaves, Radar, and Wireless Communications* (MIKON), Wroclaw, Poland, 19-21 May 2008, pp. 453-456.

[C6] **G. Crupi**, D. M. M.-P. Schreurs, I. Angelov, A. Caddemi, and B. Parvais "Equivalent circuit based non-linear microwave model for FinFETs," *11th International Symposium on Microwave and Optical Technology* (ISMOT), Monte Porzio Catone, Italy, 17-21 December 2007, pp. 99-102.

[C5] A. Caddemi, **G. Crupi**, and D. Schreurs, "Analytical construction of nonlinear lookup table model for advanced microwave transistors," *IEEE International Conference on Telecommunications in Modern Satellite, Cable and Broadcasting Service* (TELSIKS), Nis, Serbia, 26-28 September 2007, pp. 261-270 (Invited Talk).

[C4] **G. Crupi** and D. M. M.-P. Schreurs, "Implementation of non-linear model based on lookup table approach," *3rd TARGET Winter School on CAD Implementation of Non-Linear Device Model and Advanced Measurements*, Santander, Spain, 19-23 February 2007, pp. 1-51 (ISBN 978-84-8102-452-4).

[C3] N. Donato, A. Caddemi, **G. Crupi**, and E. Calandra, "Microwave characterization and modeling of packaged HEMTs by a direct extraction procedure at cryogenic temperature," *21st IEEE Instrumentation and Measurement Technology Conference* (IMTC), Como, Italy, 18-20 May 2004, vol. 3, pp. 2208-2211.

[C2] **G. Crupi** and N. Donato, "Bias and temperature dependent modeling of on wafer HEMT's by a direct and fast procedure," *IEEE International Symposium on Industrial Electronics* (ISIE), Ajaccio, France, 4-7 May 2004, pp. 1543-1548.

[C1] A. Caddemi, N. Donato, and **G. Crupi**, "A robust approach for the direct extraction of HEMT circuit elements vs. bias and temperature," *IEEE International Conference on Telecommunications in Modern Satellite, Cable and Broadcasting Service* (TELSIKS), Nis, Serbia and Montenegro, 1-3 October 2003, vol. 2, pp. 557-560.

LIBRI INTERNAZIONALI

[L2] "Microwave wireless communications: From transistor to system level," edited by A. Raffo and **G. Crupi**, Oxford:UK: *Elsevier Academic Press*, March 2016.

[L1] "Microwave de-embedding: From theory to applications," edited by **G. Crupi** and D. M. M.-P. Schreurs, Oxford:UK: *Elsevier Academic Press*, November 2013.

CAPITOLI DI LIBRI INTERNAZIONALI

[CL4] A. Raffo and **G. Crupi**, "Preface," in the book "Microwave wireless communications: From transistor system level," edited by A. Raffo and G. Crupi, Oxford:UK: *Elsevier Academic Press*, 2016.

[CL3] **G. Crupi**, A. Raffo, G. Avolio, A. Caddemi, D. M. M.-P. Schreurs, and G. Vannini, "Microwave transistor modelling," Chapter 1 in the book "Microwave wireless communications: From transistor system level," edited by A. Raffo and G. Crupi, Oxford:UK: *Elsevier Academic Press*, 2016.

[CL2] **G. Crupi**, D. M. M.-P. Schreurs, and A. Caddemi, "A clear-cut introduction to the de-embedding concept: less is more," Chapter 1 in the book "Microwave de-embedding: From theory to applications," edited by G. Crupi and D. M. M.-P. Schreurs, Oxford:UK: *Elsevier Academic Press*, 2013.

[CL1] D. M. M.-P. Schreurs, M. Myslinski, and **G. Crupi**, "Optimizing microwave measurements for model construction and validation," Chapter 8 in the book "Nonlinear transistor model parameter extraction techniques," edited by C. Fager, D. E. Root, and M. Rudolph, *Cambridge University Press*, 2011.