

Oct 2013

Gian Guido Gentili

Curriculum Vitae

- Ms. degree (laurea) in Electronics Engineering in Oct. 1987 at Politecnico di Milano, Italy.
- In Jan. 1989 PhD scholarship at Politecnico di Milano, Electronics Engineering (IV cycle).
- In Dec. 1989 he becomes a researcher at CNR (National Research Council), Centro di Studio per le Telecomunicazioni Spaziali (CSTS), at Politecnico di Milano, Dipartimento di Elettronica e Informazione. Since the two positions (PhD and CNR researcher) are not compatible, he must leave the PhD.
- In 2001 he becomes a Senior researcher at CSTS (CNR), Politecnico di Milano.
- In 2002 he becomes a Professor (Professore associato) in Electromagnetic Fields (ING-INF/02) at Politecnico di Milano.

Current position

Since Nov. 2002 Professore associato at Politecnico di Milano.

Invitations/acknowledgments

Since 1995 he has been a referee for the following journals:

- IEEE Transaction on Microwave Theory and Tech.
 - IEEE Transactions on Antennas & Propagation
 - IEEE Transaction on Geoscience and Remote Sensing
 - IEEE Microwave and Guided Wave Letters
 - IEEE Antennas & Wireless Propagation Letters
 - IEE Proc.-H,
 - Electronics Letters
- ❖ He has been a referee for the European Microwave Conference (EuMC '93, Madrid, EuMC '02, Milan).
- ❖ In 1993 and 1995 he has been invited at Politecnico di Madrid (ETSIT, Departamento de Sistemas senales y radiocomunicacion) for a three-months and five months stay.

Some Cooperations (present/past)

- European Space Agency (ESA/ESTEC) (Lange couplers, interdigital filters)
- European Space Agency (ESA/ESOC) (overmoded waveguide transmission)
- Politecnico di Madrid, Dipartim. Microonde e Radar (prof.sa Salazar) (coupled lines, FEM, patch antennas and arrays)
- Politecnico di Madrid, Dipartim. Elettromagnetismo (prof. Rebollar) (Waveguide junctions, numerical methods)
- Università di Firenze (prof. Pelosi) (corrugated and coaxial horns, OMT, horn coupling)
- CSELT, Torino, Microwave and antennas unit (L. Accatino) (Waveguide junctions and components)
- IRITI, CNR, Politecnico di Torino (R. Tascone) (Waveguide bends)
- Siemens Telecomunicazioni, Cassina de' Pecchi (MI) (Cylindrical cavity filters)
- Alcatel, Concorezzo (MI) (Overmoded filters)
- FOREM, Agrate, (MI) (Rectangular waveguide filters)
- Politecnico di Milano, gruppo Digital Signal Processing (prof. Spagnolini) (GPR for pavement profiling)
- Politecnico di Milano, gruppo Fotonica (prof. Martinelli) (Optical switch)
- Gibertini (MI) (Array a fascio controllato per radiomobile)
- EMS (MI) (Antenne per radiomobile)
- CNR-IFN, plasmonics waveguides and circuits and solar cells enhancement
- Aresys, 2.5D and 3D Finite Element Modelling for CSEM.
- Aresys, e.m. propagation in curved pipelines
- Conductix-Wampfler, high speed data communication
- Whirlpool, Antenna modelling
- Univ. Milano, measurements on conductive polymers
- Oss. Arcetri, measurements techniques and millimeter wave antennas
- Aresys, a W-band array

Research Topics

- Boundary Integral Method: formulations, planar circuits (reciprocal and non-reciprocal), eigenmode analysis.
- Finite-Element Method: eigenmode analysis, 2D, 2.5D, BoR with axial dependence, 3D
- Mode-Matching: general theory (properties and mode selection criterion), rectangular, circular and coaxial waveguide discontinuities, rectangular waveguide to cylindrical cavity transition, curved waveguides.
- GAM: Generalized admittance matrix analysis of waveguide components.
- Spectral Methods: shielded transmission lines in multilayered dielectric, radiation by sources in multilayered dielectric in shielded and open structures (Sommerfeld formulation).
- FDTD method: analysis of 2D-3D obstacles in rectangular waveguide.
- Coupled lines: general theory of N coupled quasi-TEM lines.
- De-embedding: automatic error correction in the measurements of S-parameters for two-ports circuits and four-ports circuits.
- Waveguide filters: overmoded cavity filters, direct-coupled filters, dielectric resonators filters, combline filters.
- Microstrip/Suspended stripline devices: interdigital filters, Lange couplers.

- Patch antennas: antennas residing in a cavity in single and stacked configuration and arbitrary shape. Arrays.
- Overmoded waveguide transmission: low-loss transmission for source-antenna links in overmoded waveguide.
- GPR: ground penetrating radar. Analysis and description of interactions.
- Horn antennas: circular and coaxial corrugated horns. Dielectric horns.
- Antenna arrays for mobile communications.
- OMT: analysis and design of ortho-mode transducers.
- Waveguide bends: analysis and design of arbitrary bends in standard and overmoded rectangular/circular waveguide.
- Plasmonic circuits and waveguides for TLC
- Solar cell enhancement
- Nanoantennas and THz radiation