

# Curriculum Vitae of Stefano Maci

## Summary

Stefano MACI was born in Rome in 1961. He received his laurea degree (cum laude) in Electronic Engineering from the University of Florence, Italy, in '87. From 90 to 98 he was with the Department of Electronics of the University of Florence. Since '98 he is with the University of Siena, Italy, where he presently is a Full Professor, with responsibility of a group of 15 researchers (<http://www.dii.unisi.it/~lea/>). His research interests are focused on Electromagnetics, with emphasis to high-frequency and numerical methods for antennas. He was a co-author of an Incremental Theory of Diffraction for the description of a wide class of electromagnetic scattering phenomena at high frequency, and of a diffraction theory for the high-frequency analysis of large truncated periodic structures.

He is presently working on the following research themes: i) high-frequency methods for radiation and scattering problems, ii) Beam methods, iii) Computational Electromagnetics, iv) large phased array antennas, v) planar antennas and multilayer structures, vi) reflector antennas and feed horns, vii) Metamaterials, viii) Artificial surfaces. He is keeping scientific cooperation mainly with Chalmers University of Technology, Technical University of Denmark, Ecole Polytechnique Federale de Lausanne, Ohio State University, University of Illinois, University of Karlsruhe, Queen Mary University of London, University of Zagreb, University of Louvain. In '97 he was a guest Professor at the Technical Institute of Denmark, Copenhagen.

He was responsible of projects funded by the European Union (EU), by the European Space Agency (ESA-ESTEC) and by various European industries, and WP leader of the Antenna Center of Excellence (ACE, FP6-EU). He was International Coordinator of a 24-institution consortium of a Marie Curie Action (FP6). He also was carried out several projects supported by the European Union (EU), the Italian ministry of research (MIUR), the European Space Agency (ESA-ESTEC), the European Defense Agency (EDA), the US-Army Research Laboratory (ARL), and by various industries and research institutions: EADS-MATRA, (Tolosa, Francia), IDS (Pisa, Italia), TICRA (Copenhagen), ALENIA SPAZIO (Roma), ALENIA MARCONI SYSTEM (Rome, Italy), SAAB-ERICSON SPACE (Goteborg, Svezia), THALES (Paris, France), TNO (L'Aia, Olanda), OTO MELARA (La Spezia, Italia), Selex Galileo (Florence, Italy). Selex Communication (Florence), Thales Alenia Space (Rome), Selex Sistemi Integrati (Rome).

In 2001, he was one of the founder of the Italian School of Electromagnetism, and he was chair of the relevant board for the first 3 years and a member of the board since 2007. In 2003 he was elected Fellow of IEEE (Antennas and Propagation Society) for his scientific contributions on diffraction theory of periodic printed structures in stratified media. In 2004 he founded the European School of Antennas (ESoA), that presently comprises 30 courses on Antennas, Propagation, Electromagnetic Theory, and Computational Electromagnetics, and about 150 among the best teachers of Europe (among which eleven IEEE Fellow) coming from 30 European research centres. ESoA offers 12 one week courses per year. He is from 2004 the Chair of the ESoA board. In 2005-2007, he was Italian National representative of the NATO SET-TG 084 "Emerging Technology for Sensor and Front-ends". Since 2008 he is honorary President of LEAntenne e Progetti SPA (Valeggio sul Mincio, VE).

Stefano Maci was associate Editor of IEEE Transactions on EMC ('99-'01), two times Guest Editor of IEEE Transaction on Antennas and Propagation (IEEE-TAP), and Associate Editor of IEEE Antennas and Propagation. He presently is a Director of the European Association on Antennas and Propagation (EuRAAP), a member of the Technical Advisory Board of the URSI Commission B, a member elected of the AdCom of IEEE Antennas and Propagation Society, the Director of the PhD school of Information Engineering at University of Siena, the Faculty representative of the International Affair Committee and a member of the strategic Board of Research of his University.

He was recipient of national and international prizes and recognitions and best paper awards. He is principal author or co-author of more than 100 papers published in international journals, (among which about 70 on IEEE journals), 10 book chapters, and about 300 papers in proceedings of international conferences. His h index (29) is among the highest of the Antennas and Propagation community.

# 1. INSTITUTIONAL AND EDUCATIONAL ACTIVITIES

## 1.1 Academic tasks and other institutional tasks

<i>Year</i>	<i>Task</i>
90-98	Assistant Professor, University of Florence
98-04	Associate Professor, University of Siena
04-11	Full Professor, University of Siena (UNISI)
99-02	Member of the “Giunta” of Department, Information Eng Department, UNISI
99-02	Leader of Faculty Tutoring Commission, UNISI
02-05	President of the Siena Section of Italian Association of Electrotecnic and Telecomm. (AEIT)
03-04	Leader of the Commission for Evaluation of the Department, Information Eng Dept, (UNISI)
04-06	Representative of UNISI, Task Force Asia Pacific, Coimbra Project
07-11	Representative of the International Affair Board of the University
10-11	Member of the Committee of UNISI Research (staff to UNISI Pro-Rector of Research)
10-11	Member of the Board of the <i>Scuola Superiore S Chiara</i>

## 1.2 University courses

<i>Year</i>	<i>Course teaching</i>	<i>Laurea Course (LC)</i>
94-95	Microwave	Electronic Eng. (ELC), University of Florence
94-97	Antennas	ELC University of Florence
98-11	Antennas	Telecomm Eng (TLC) University of Siena
08-11	Electromagnetic Compatibility	TLC, University of Siena
01-11	Lab. of Antennas and Propagation	TLC, University of Siena
03-11	Antennas and Propagation	TLC, University of Siena
10-11	Electromagnetic field	TLC, University of Siena

## 1.3 National Educational Activity

<i>Year</i>	<i>Activity</i>
94-11	Advisor of around 30 PhD students and about 120 Master students
98-03	Member of PhD Board University of Florence
03-06	Member of PhD Board UNISI
01-07	Founder Member (01), Chair (01-04), and member (04-07) of the National PhD board of SIEM (Italian Society of Electromagnetics)
10-11	Director of the PhD School of Information Engineering, UNISI

## 1.4 International Advising (member of PhD committee)

<i>Year</i>	<i>PhD Candidate and University</i>
98	Michael Lumholt, Technical University of Denmark, Lingby, Nov. 98
99	Marteen van der Vorst, Technical University of Eindhoven, The Netherlands, Aprile 99
01	Johan Granholm Technical University of Denmark., Lingby, Gennaio 01.
03	Erik Jorgensen, Technical University of Denmark, Lingby, 2003
06	Nuria Llombart, Universidad Politecnica de Valencia, May 2006
06	Gael Godi, IETR, October 2006
08	Elena Pancera, University of Karlsruhe, May 2008
09	Sinisa Skokich, University of Zagreb, Zagreb, 2009
09	Felipe Vico, Universidad Politecnica de Valencia
09	Olli Luukkonen, Aalto University, Helsinki, Finland, December 2009
10	Oscar Quevedo Teruel, University Carlos III, Madrid, Spain, February 2010
10	Lyazid Aberbour, Université Catholique de Louvain, Louvain, Belgium, April 2010

<i>Year</i>	<i>Link Responsible Inside Erasmus</i>
01-11	Chalmers University of Technology, (Gotheborg, Sweden)
01-11	University of Glasgow, (Glasgow, Scotland)
02-11	Università di Alcalà (Madrid, Spain)
05-11	Technical University of Denmark (Copenhagen, Denmark)
08-11	Universidad Politecnica de Valencia (Valencia, Spain)
09-11	Universidad Carlos III, (Madrid, Spain)
09-11	Queen Mary College of London (London, United Kingdom)
10-11	Check Technical University (Prague, Check Republic)
10-11	Université Catholique de Louvain (Louvain, Belgium)

## 1.5 European School of Antennas

04	Founder of the European School of Antennas	
04-11	Director ESoA	
04-11	WP leader of ESoA inside the Antenna Center of Excellence	
07-09	Coordinator of the FP6 Marie Curie Action on ESoA (MCA SCF 046042)	
05-10	Organization and teaching in ESoA courses (see below)	
<i>Year</i>	<i>Activity (*)</i>	<i>Course</i>
05	O-T	“High Frequency Tech. and travelling wave antennas” Siena., IT Feb 21 23
05, 07, 09	T	“Artificial EBG surfaces and Metamaterials” Gothenburg, SE, April 8-22
05	T	“Phased array and reflectarray” Den Haag, NL, April 11-15
05	T	“Design and anal.of large refl. and lens antennas” Copenhagen, DK, May 8-13
05, 07	T	“Computational EM for Antenna analysis”, Torino, I, Sept 19-23
06, 08,10	O-T	“Advanced Mathematics for Antenna Analysis” Dubrovnik, CR, May 8-12
06,08	O-T	“Propagation in mobile communications” Siena, IT, June 5-9, 2006
08	T	“ Reflector and lens antennas” Gothenburg, SE, October 2007

(\*) T stands for Teaching O-T for “Organization and Teaching”

## 2. SCIENTIFIC ACTIVITIES

### 2.1 International Scientific cooperation

Prof. J. Mosig	Ecole Politecnique Federale de Lausanne
Prof. O. Breinbjerg	Technical University of Denmark
Prof. F. Catedra	Università di Alcalà
Prof. N. Engheta	University of Pennsylvania
Prof. P-S. Kildal	Chalmers University of Technology
Prof. P. H. Pathak	Ohio State University
Prof. P. Ya Ufimsev	University of California Los Angeles
Prof. P. Uslenghi	University of Illinois
Dr. Arthur Yaghjian	Hanscom Research Center, Boston
Prof Zvonimir Sipus	University of Zagreb
Prof. Werner Wiesbeck	University of Karlsruhe
Prof. Yang Hao	Queen Mary University of London
Prof. Cristophe Craeye	Université Catholique de Louvain
Prof. Andrea Neto	Technical University of Delft

### 2.2 Reviewer activity for International Scientific Journal

95-11	IEEE Transaction on Antennas and Propagation
95-00	Journal of Electromagnetic Wave and Applications
95-00	Electronics Letters
96-01	IEE Proceeding Microwaves Antennas and Propagation
97-03	IEEE Transaction on Electromagnetic Compatibility
99-06	Radio Science
02-06	IEEE Antennas and Wireless Propagation Letters

## 2.3 International Activity in IEEE, URSI, NATO, EU

<i>Year</i>	<i>Activity</i>
99-01	Associate Editor IEEE Trans. on Electromagnetic Compatibility
98	Elected Senior member IEEE
04	Elected Fellow IEEE <i>“For contributions to the diffraction theory of planar periodic printed array antennas”</i>
02-05	Member of URSI Commission B Technical Advisory Board
04	Co-guest editor of the special issue of <i>IEEE Trans. on Antennas and Propagat</i> "Magnetic conductor, soft and hard surfaces, and other complex surfaces" Jan 2005
06	Co-guest editor of the special issue of <i>IEEE Trans. on Antennas and Propagat</i> “Electromagnetic wave propagation in complex environments: a tribute to Professor L.B. Felsen” Jan 2007
04-06	Member of the NATO Panel SET-TG 084 "Emerging Technologies for Sensors and Front-ends "
04-11	Director of the “European School of Antennas” (see 1.5)
06-07	Chairmen of the “Proposal Evaluation Board” of the Antenna Center of Excellence, FP7
09-11	Member of the Governing Board of the European Assoc. on Antennas and Propagation (EurAAP)
10-11	Member Elected of the Board of Directors of EurAAP
08-10	Member of the Executive Board of the FP7 EU project “Antennas Research and Technology for Intelligent Car (ARTIC)”
09-11	Member of the Governing Board of the EU project “Coordinating the Antenna Research in Europe” (CARE)
08-11	Member of the Committee for IEEE Antennas and Propagation Society (AP-S) Award
08-10	Member of the Committee for Best papers in IEEE Transaction on Antennas and Propagation
10-11	Member Elected of the Administration Committee (AdCom) of the Antennas and Propagation Society
10-11	Member of the Committee for the IEEE AP-S Distinguish Lecturers program
10-11	Member of the Steering committee of “NewFocus” (European Science Foundation)

## 2.4 Chairmanships and organizations of special sessions (updated 2008)

<i>Year</i>	<i>Month</i>	<i>Session</i>	<i>Conference</i>	<i>Plac</i>	<i>Activity(*)</i>
95	June 20-25	Scattering	IEEE AP-S Symp	Newport . Beach	C
97	July 13-18	Antennas	IEEE AP-S Symp	Montreal	C
98	July 13-17	Patch antennas	PIERS	Nantes	C
98	June 21-26	EM scattering from extended bodies	IEEE AP-S Symp	Atlanta	C
99	June 21-26	High-frequency methods	IEEE AP-S Symp	Orlando	C
99	Oct. 11-13	Antenna modeling and applications	ICECOM	Dubrovnik	O-C
00	July 5-15	High-frequency techniques	PIERS	Cambridge	O-C
00	1-5 August	High frequency techniques	ISAP	Fukuoka	O-C
01	Oct 11-13	Computational Electromagnetics	ICECOM	Dubrovnik	O-C
01	July 9-12	Lens antennas	IEEE AP-S Symp	Boston	C
01	1 June	General Periodic Structures	24-th ESTEC Ant. WS	Noordwijk	C
02	July 1-5	Novel Mathematical Methods in EM	PIERS	Cambridge	C
02	July 17-21	Leaky Wave Antennas	IEEE AP-S Symp	Houston	C
03	June 22-27	Novel MoM Techniques for Efficient Antenna and Large Array Modeling	IEEE AP-S Symp	Columbus	C
03	Nov 12-14	Array Antennas	26-th ESTEC Ant. WS	Noordwijk	C
04	May 24-27	Hybrid and Other Innovative Approaches for Solving Large-Body	URSI EMT-S	Pisa	C
04	May 24-27	Artificial Magnetic, Soft and Hard Surf. and Other Complex Surfaces	URSI EMT-S	Pisa	O-C

05	July 3-8	Integration, Technical, and Spreading Activities in the Antenna Center of Excellence	IEEE APS-Symp	Washington DC	O-C
06	July 9-14	Special session in memory of Prof. L.B. Felsen	IEEE APS-Symp	Albuquerque	O-C
06	July 9-14	Special session in memory of Prof. R.Tiberio	IEEE APS-Symp	Albuquerque	O-C
07	June 12	Integral Equations and Green's Functions	IEEE APS-Symp	Honolulu	C
07	June 14	Leaky-wave Antennas	IEEE APS-Symp	Honolulu	C
08	July 11	Special session on Holographic antennas	IEEE APS-Symp	S Diego	O-C
08	July 11	Integral Equation Approaches for Layered Media	IEEE APS-Symp	S Diego	C
08	July 7	Array Analysis and Design	IEEE APS-Symp	S Diego	C
08	July 7	Special session on Electromagnetic Cloaking	IEEE APS-Symp	S Diego	O-C

C stands for "Chairmen of the session" and O-C for "Organizer and Chairmen of the session"

## 2.5 Organization of Scientific events

<i>Year</i>	<i>Month</i>	<i>Partecipation</i>	<i>Event</i>	<i>Place</i>
01	Sept 24-26	Tech. Prog.Comm.	ICECOM	Dubrovnik, Cr
01	Sept 17-18	Chairmen	Workshop on wave dispersion in complex environment	Siena, Italy
03	Ott 1-2	Tech. Prog.Comm.	ICECOM	Dubrovnik, Croatia
03	Ott 13-16	Tech. Prog.Comm.	IEEE Int. Symp. on Phased Array Syst. and Tech	Boston, MA
04	May 24-28	Tech. Prog.Comm.	URSI EMT-S	Pisa, Italy
04	July 8-10	Tech. Prog.Comm.	ARP 2004	Banff, Canada
05	Oct 10-11	Chairmen	EBG and MEMS Technologies for Antennas and Front-Ends	Siena
09	August	Tech. Prog.Comm	URSI EMT-S	Ottawa
10	April	Tech. Prog.Comm	EuCAP 2010 (Convened sessions organiz.)	Barcelona
11	April	Tech. Prog.Comm	EuCAP 2010 (Invited talks organiz.)	Rome

## 2.6. Journal and Conference Paper Awards

<i>Autori</i>	<i>Titolo</i>	<i>Premio</i>
A. Cucini, S. Maci	'Macro-Scale Basis Functions for the Method of Moment Analysis of Large Periodic Microstrip Arrays ' Applied Computational Electromagnetics Society , Vol.21, 256 – 266, 2006	"Best journal paper award" year 2006
M Ettore, A Neto, G Gerini, S Maci,	"Leaky-wave slot array antenna fed by a dual reflector system"	Second Prize at 30th ESA Antenna Workshop on 27 - 30 May 2008, ESA/ESTEC, Noordwijk, The Netherlands
S Skokic M Casaletti, , S Maci, S Sorensen	"Complex conical beam expansion for the analysis of beam waveguides"	Best Poster Paper at EuCAP 2009, Berlin, Germany

M Casaletti, S Skokic, "Beam expansion in multi-reflector Second Prize at the Best Oral Paper  
S Maci, S Sorensen quasi-optical systems" Contest Paper at EuCAP 2010,  
Barcelona, Spain

## 2.7 IEEE Short courses

Year	Speaker	Short course	Place
02	June P-S Kildal, S. Maci	IEEE Short course "Theory and application of PBG structures used as artificial magnetic conductors and soft and hard surfaces"	IEEE AP-S Symp S. Antonio, Texas
03	June P-S Kildal, S.Maci, D.Sievenpiper	IEEE Short course "Theory and application of PBG structures used as artificial magnetic conductors and soft and hard surfaces"	IEEE AP-S Symp Columbus, Ohio
03	April P-S Kildal, S.Maci	IEEE Short course "Theory and application of PBG structures used as artificial magnetic conductors and soft and hard surfaces"	Kalmar, Sweden,
03	May S. Maci, G. Vecchi	PhD Course "Challenges in complex planar structures: arrays and artificial surfaces"	University of Karlshue
03	Sept. P-S Kildal, S.Maci, D.Sievenpiper	IEEE Short course "Theory and application of PBG structures used as artificial magnetic conductors and soft and hard surfaces"	ICEAA, Torino
04	June P-S Kildal, S.Maci, D.Sievenpiper	IEEE Short course "Theory and application of PBG structures used as artificial magnetic conductors and soft and hard surfaces"	IEEE AP-S Symp Monterey, California,
05	July P-S Kildal, S.Maci, D.Sievenpiper	IEEE Short course "Theory and application of PBG structures used as artificial magnetic conductors and soft and hard surfaces"	<i>IEEE AP-S Symp</i> Washington DC,
05	July S. Maci R. Mittra G. Vecchi	IEEE Short course "A Unified Iteration-Free Approach to Solving Large Antenna and Scattering Problems"	<i>IEEE AP-S Symp</i> Washington DC,
06	July S. Maci R. Mittra G. Vecchi	IEEE Short course "A Unified Iteration-Free Approach to Solving Large Antenna and Scattering Problems"	<i>IEEE AP-S Symp</i> Albuquerque,
10	July A Alù N. Engheta S. Maci	IEEE Short Course "Plasmonic and Transformation Optics Cloaking"	<i>IEEE AP-S Symp</i> Toronto

## 2.8 Invited presentations (Updated 2005)

Year	Month	Title	Conference
97	Sept. 16-18	Vertex diffracted Floquet wave from a corner array of dipoles	ICEAA, Torino
98	July 13-17	Uniform high-frequency description of the currents on a polygonal plate	PIERS, Nantes
99	Aug 13-21	High-frequency Green's function for the full-wave description of large phased arrays	URSI-GA, Toronto
99	Feb 7-10	High-frequency methods for EM couplings in complex environments"	IEEE EMC-Symp., Zurich
99	Oct 13-17	Periodicity matched Green's functions for large phased arrays	ICEAA, Torino
99	Oct 11-13	Truncated Floquet wave diffraction theory for large phased arrays	ICECOM, Dubrovnik
00	July 5-15	Attractive feature of printed leaky-wave arrays in multilayered configur	PIERS, Cambridge
00	July, 5-15	High-frequency Green's function for patch array antennas	PIERS, Cambridge

01	Sept 24-26	Radiation and scattering from large microstrip arrays	ICECOM, Dubrovnik
01	Jan. 22-24	Recent progress in large array analysis	SSF Antenna WS Tammsvik
01	30 May – 1Jun	Scattering from printed array	24-th ESTEC WS, Noordwijk
02	June 17-21	Artificial quasi-magnetic surface: grazing wave suppression and leaky wave excitation	IEEE AP-S, Houston
02	July 1-5	Analysis of large arrays	PIERS, Cambridge
02	July 1-5	High-frequency Green's Function for Infinite Slot	PIERS, Cambridge
03	31March- 3April	Matrix compression techniques for large arrays: Synthetic local and global functions	ICAP, Exeter, UK
03	Feb 20-21	Truncated Floquet wave diffraction theory for planar, periodic phased array on stratified dielectrics	Electromagnetics in a Complex world: Benevento
03	June 22-27	Dispersion properties of periodic grounded structures via equivalent network synthesis	IEEE AP-S Columbus
03	June 22-27	Leaky wave antennas realized by artificial surfaces	IEEE AP-S, Columbus
03	June 22-27	Matrix compression and supercompression for large arrays	IEEE AP-S Columbus
	Sept 08-12	Bandgap properties of artificial surfaces	ICEAA Torino,
03	Oct 13-17	Wave dispersion properties of artificial surfaces	PIERS, Honolulu
03	Oct 13-17	Ray description of large rectangular phased arrays	PIERS, Honolulu
03	Oct 13-17	On the influence of the improper poles on the uniform asymptotic TM Green's function of a semi-infinite dielectric medium	PIERS, Honolulu
03	Nov. 12-14	Multi-resolution, matrix compression and supercompression techniques for the analysis of large arrays	26-th ESTEC Antenna WS, Noordwijk
04	Mar 28 - 31	Line-Integral representation of the PO radiation integral from a cassegrain subreflector	PIERS, Pisa
04	Mar 28 - 31	Conversion of PO radiation from NURBS surfaces into a contour line integration	PIERS, Pisa
04	May 23-27	Macroscale Floquet-wave matched basis function for large printed arrays	UMT-S Pisa
04	May 23-27	Matrix compression via problem matched basis function .....	UMT-S Pisa
04	May 23-27	Quasi-TEM waveguide by using FSS-based hard surfaces	UMT-S Pisa
04	June 1-2	The TFW Diffraction Theory for Planar Phased Arrays: An Overview-	Doctor Degrees honoris Causa Prof. Felsen, Munich
04	June 20-27	A network theory for EBG surfaces. Generalization .....	IEEE AP-S, Monterey
04	June 20-27	Hard and Soft surfaces realized by FSS printed on a grounded dielectric slab	IEEE AP-S, Monterey
05	July 3-8	"The European School of Antennas: A new model of distributed PhD school"	IEEE AP-S Washington DC, USA, 3-8 July 2005

## 2.9 Seminars at European Universities (updated 2002)

<i>Year</i>	<i>Mont h</i>	<i>Title of the seminar</i>	<i>University</i>
94	Ott	New developments in high frequency techniques	Chalmers Univ. of Tech. (Gotheborg)
95	Ott	The Incremental Theory of Diffraction	Chalmers Univ. of Tech. (Gotheborg)
95	Ott	High-frequency techniques and ITD	Tech.Univ.of Denmark (Copenhagen),
96	Apr	Dual-frequency patch antennas	EPFL, Lousanne
97	Dic	Hybrid technique for large array antennas	Chalmers Univ. of Tech. (Gotheborg)
97	Mar	The generalized localization process in ITD	
97	Mar	Special uniform transition functions for double diffraction and vertex problems	Tech.Univ.of Denmark (Copenhagen)
97	Mar	The Floquet wave diffraction theory for large periodic structures	Ciclo di seminari tenuti in qualita' di visiting Professor

97	Mar	Reduction of surface to line integration for a certain class of radiation problems	
99	Apr	Array ray generators in complex environment	Chalmers Univ. of Tech. Gotheborg,
99	Apr	Integrated elliptical lens antennas	Tech.Univ.of Denmark , Copenhagen
00	Giu	Truncated Floquet wave diffraction theory	Universidad de Catalugna, Barcellona
00	Ott	Array Theory	University of Glasgow
01	Gen	Research activity at the University of Siena	Tech.Univ.of Denmark , Copenhagen
02	Sett	New application of Periodic printed surfaces	Chalmers Univ. of Tech. Gotheborg
02	Nov	Artificial planar surfaces	Tech.Univ.of Denmark , Copenhagen

### 3. RESEARCH PROJECTS AND INDUSTRIAL ACTIVITIES

#### 3.1 International research projects

Anno	Title of the project	Financing Instit.	Involved institutions
96-97	Modelling of currents induced close to vertex discontinuities	MOTHEMIM, Paris	UNISI
98-99	Efficient Electromagnetic Modelling Tools for Large Arrays	DASA, Monaco	UNISI
96-97	Omnidirectional antenna system for rendez-vous and docking	European Space Agency (ESA-ESTEC) Noordwijk	IDS, PoliTo
95-96	Advanced Electromagnetic modeling tool set	European Space Agency (ESA-ESTEC) Noordwijk	IDS, Politec.of Turin, Univ.of Rome, TICRA
97-98	Integrated antenna development	European Space Agency (ESA-ESTEC) Noordwijk	SRON, Techn. Univ.. Eindhoven, Univ. of Glasgow, UNISI
98-99	Antenna Design Framework Follow-on	European Space Agency (ESA-ESTEC) Noordwijk	IDS, TICRA, Poli. of Turin, Univ. Tor Vergata, UNISI
98-99	Antenna Farm Simulation Tools	European Space Agency (ESA-ESTEC) Noordwijk	IDS, Space Engineering, , Alenia Spazio, TNO, UNISI
98-99	Antenna CAD and technology for Future SARs	European Space Agency (ESA-ESTEC) Noordwijk	Saab Ericsson Space, LEMA-EPFL, IDS, UNISI
98-00	Multipurpose Antenna Design Simulator	UE-FP5	Thomson-CSF/RCM (F), IDS (I), TICRA (DK) NTUA (GR), UNISI LEMA/EPFL (CH), PoliTo (I)
02-04	Integrated Electromagnetic Modelling of Satellite Antenna	European Space Agency (ESA-ESTEC) Noordwijk	IDS, EADS-MATRA, NLR, PoliTo UNISI
02-03	Antenna installation on complex platforms	EADS-MATRA	UNISI
04-05	Phase Error Correction in the ESTEC Compact Payload Test Range using the Shadow Boundary Integral technique	European Space Agency (ESA-ESTEC) Noordwijk	UNISI
04-06	Antenna Center of Excellence	UE-FP6-NoE	46 Institutions
05-07	European antenna modelling library (EAML1)	European Space Agency (ESA-ESTEC) Noordwijk	TICRA, IDS, PoliTo, UniFi SATIMO, UNISI
06-08	Antenna Center of Excellence 2	UE-FP6-NoE	52 Institutions,
07-10	European School of Antennas	UE-Marie Curie Action	24 Institutions, <i>Coordinator</i>
07-08	European antenna modelling library 2 (EAML2)	European Space Agency (ESA-ESTEC) Noordwijk	TICRA, IDS, PoliTo, UniFi SATIMO, UNISI



09-10	European antenna modelling library 3 (EAML3)	European Space Agency (ESA-ESTEC) Noordwijk	TICRA, IDS, PoliTo, UniFi SATIMO, UNISI
08-10	Antenna Research and Technology for Intelligent Car (ARTIC)	UE-FP7-CA	11 Institutions
08-09	Reconstruction of Antenna Full Far field Pattern from Tuncated spherical Data Sets	European Space Agency (ESA-ESTEC) Noordwijk	UNISI, SATIMO
09-11	Coordinating the Antenna Research in Europe	UE-FP7-CA	16 Institutions
10-11	Holographic Antennas for Isoflux applications (HOLOANT)	European Space Agency (ESA-ESTEC) Noordwijk	IDS, UniFi, UNISI
11-14	Metamaterials for active electrically scanned arrays (METALESA)	European Defense Agency (EDA)	(Thales, Onera, UPNA, Tafco, UNISI, Fraunhofer Institute)
10-11	Retrieval of Constituent Parameters in Metamaterials	Army Research Laboratory, Baltimore, USA	UNISI
10-14	New Frontiers in mm and sub-mm waves integrated dielectric focusing system (NEwFocus)	European Science Foundation	12 Institutions

### 3.2. Projects financed by national industries

Year	Title of the project	Institution
96-97	Dual frequency and dual polarisation patch antennas for SAR	Alenia-Spazio
00-01	Progetto di Sistema di antenna attiva per link di telecontrollo	Otomelara
00-01	Funzioni di Green per mezzi arbitrariamente stratificati.	IDS
01-02	Funzioni di Green in guida stratificata a piani paralleli	IDS
01	Riduzione di integrali di PO in integrali di linea	IDS
01	Sviluppo di un coefficiente di diffrazione uniforme da vertice	IDS
01-02	Antenna attiva ad onde millimetriche per telecontrollo	Oto Melara
02-03	Progetto di un antenna per Radar CW	Oto Melara
03	Modelli di scattering diffuso dalla superficie marina	Oto Melara
03-04	Progetto di una antenna radar ad array planare a bassi lobi laterali	Oto Melara
02-03	Innovative technology and EM modelling of antennas for space observation	ASI
04-05	Studio e modellizzazione EM di strutture multistrato stampate a elementi periodici	Galileo Avionica
06-07	Electromagnetic modelling of complex environment	IDS
06-07	FSS Analysis	Selex SI
06-08	Design of integrated automotive antennas	Calero
07-08	FSS placed on planar phased array	Selex SI
08-09	Studio e modellizzazione EM di separatori a Bandgap elettromagnetico	Selex Galileo
08-09	Progetto di antenne per applicazioni in banda TETRA	LEAntenne

### 3.3. Projects financed by Ministry (PRIN) and by University (PAR)

02	Predictions models for large array antennas (PAR)
03-04	Analysis methods for periodic planar stratified structures: effects of bangaps, localized sources and truncations (PAR)
05-06	EBG based antennas (PAR)
03-05	Strutture radianti a basso impatto ambientale in sistemi wireless per applicazioni multimediali (PRIN)
08-09	Progetto di illuminatori attivi per reflectarray trasportabili a scansione di fascio (PRIN)

### 3.4. Industrial Collaborations and Activities

#### *Industrial Collaborations*

Alenia Spazio	Roma, Italia
Oto Melara	La Spezia, Italia
SELEX Galileo	Firenze, Italia
IDS	Pisa, Italy
SELEX Sistemi Integrati	Roma, Italia
TILAB	Torino, Italy
ESA-ESTEC	Noordvjiik, The Netherland
EADS-MATRA	Toulouse, France
TICRA	Copenhagen, Denmark
SAAB-ERICSON SPACE	Gotheborg, Sweden
THOMSON CSF	Paris, France
DASA	Munich, Germany
NLR	The Netherlands
TNO	Den Haag, The Netherlands

#### *Industrial Activities*

04	Co-founder of the academic Spin-off "Wavecomm" <a href="http://www.wavecomm.it/">http://www.wavecomm.it/</a>
08-11	President of LEAntenne e Progetti SPA <a href="http://www.leagroup.it/">http://www.leagroup.it/</a>
10-11	University Representative at the Finmeccanica <i>Focus Group</i> on METAMATERIALS
10-11	Responsible of the Joint University-Industrial Laboratory "Lea2" (LEASquare)

### 3.5 Seminars at Industries (Updated 2003)

Year	Mon.	Title	Place
94,	June	"Coefficienti di diffrazione uniformi per problemi di antenne"	Alenia-Spazio, Roma
95	May	Antenne planari a doppia frequenza	Alenia-Spazio, Roma
95	Oct	Strut spherical wave blockage in large reflector antennas	TICRA Copenhagen
96	Sept	Il metodo dei modi troncati di Floquet per l'analisi di grandi array	Alenia-Spazio, Roma
96	June	Uniform high-frequency vertex diffraction coefficients	Mothesim-Paris
96	Oct	L'attivit� di ricerca sulle antenne all'Universita' di Siena	CSELT, Torino
96	June	Antenna installation in complex environment	ESTEC, Noordwijk
97	Feb	Accelerating reaction integrals in feed-horn problems	TICRA, Copenhagen
97	Dec	The research activity on antennas at the University of Siena	SAAB Ericsson Space
98	Oct	Analysis of large arrays	DASA, Munich
99	June	Installation of large array in complex platform	THOMSON CSF
99	Nov	Green's function of stratified medium	IDS, Nov 98
99	June	The truncated FW method for the analysis of large arrays	Alenia-Spazio Roma
00	Dec	An array-ray generator in complex environment	EADS, Toulouse
01	Feb	Complexity in Electromagnetisms	IDS, Pisa
01	Mar	Recent progresses in phased array modelling	Hanscom, Boston
02	Ott	Attivit� di ricerca sulle antenne all'Universit� di Siena	AMS, Roma
02	Nov	Acceleration of PO integration	TICRA, Copenhagen
03	May	FSS: Challenges, methodologies, and new perspectives	TICRA, Copenhagen
03	Aug	Artificial magnetic surfaces	Sigma Wireless, Dublino