

CURRICULUM VITAE

NAME:

Alessandra Fierabracci

TITLE:

MD, PhD

HOME ADDRESS:

Via Vitelli 10 C/11
00167 Rome (Italy)

Mobile: 0349/ 6047658

WEB:

<http://audi-innovativethinking.it/244/alessandra-fierabracci>

WORK ADDRESS:

Ospedale Pediatrico Bambino Gesù'
Viale S. Paolo 15
00146 Rome (Italy)
Tel: +39 06 6859 2656
Fax: +39 06 6859 2904

NATIONALITY:

Italian

EDUCATION:

Liceo Classico “Giosue’ Carducci”, Volterra (Pisa), Italy (1974-1979)

Baccalaureate in Humanities

School of Medicine, University of Pisa, Italy (1979-1986)

Doctor of Medicine (Honours)

Thesis title: Iodine-induced hyperthyroidism: diagnosis and therapy

Supervisor: Prof Enio Martino, Prof Lidio Baschieri

School of Medicine, University of Pisa, Italy (1986-1988)

Specialist Diploma in Occupational Medicine

University of London, UK (1992-1996)

Doctor of Philosophy in Immunology

Thesis title: The use of random peptide phage libraries in the search for insulin-dependent diabetes mellitus-related antigenic epitopes

Awarded on 14th November 1996

Supervisor: Dr Paul Andrew Biro

Co-supervisor: Prof Gian Franco Bottazzo

The project was supported by a research grant from the British Diabetic Association (RD94/0000927; Applicants: Dr P. A. Biro, Prof G.F. Bottazzo)

University of Florence, Italy (1993-1997)

Doctor of Philosophy in Experimental Pathology

Thesis title: Una nuova metodologia per lo studio della patogenesi del diabete mellito insulino-dipendente

Supervisor: Prof Ettore Bergamini

Royal College of Physicians of London, UK (1999)

CV and qualifications adjudged suitable for entry into the Medical Training in Clinical Immunology (Member Royal College of Pathology)

MEDICAL AND RESEARCH EXPERIENCE:

2007-2011	<i>Contract Professor</i>	University of Pisa, Pisa
2004-2010	<i>Contract Professor</i>	University of Siena, Siena
September 2000-date	<i>Senior Scientist</i>	Infectivology and Clinical Trials Area, Ospedale Pediatrico Bambino Gesù, Rome, Italy
January-October 1999	<i>sabbatical leave visiting research assistant Professor</i>	Department of Paediatrics Division of Immunogenetics Children's Hospital University of Pittsburgh Pittsburgh, PA, USA
January 1997 to August 2000	<i>Lecturer</i>	Department of Immunology, St Bartholomew's and the Royal London School of Medicine and Dentistry, Queen Mary Westfield College, London, UK
1992-1996	<i>PhD student</i>	Department of Immunology, St Bartholomew's and the Royal London School of Medicine and Dentistry, Queen Mary Westfield College, London, UK
1991-1996	<i>Research Fellow</i>	Department of Immunology, St Bartholomew's and the Royal London School of Medicine and Dentistry, Queen Mary Westfield College, London, UK
1988-1990	<i>Specialist training in Internal Medicine</i>	II Internal Medicine Department, University of Pisa, Pisa, Italy
1986-1988	<i>Specialist training in Occupational Medicine</i>	II Internal Medicine Department, University of Pisa, Pisa, Italy
<i>External Consulence</i>		
July 1999 to August 2000	<i>Medical Officer for</i>	Italian Embassy

AWARDS AND FINANCIAL SUPPORTS:

Italian Ministry of University Research Fellowship (1992-1996)

Centro Nazionale Ricerche (Italy) Research Fellowship (1991-1992)

Italian Ministry of Health Fellowship for Internal Medicine (1988-1990)

Italian Ministry of Health Research Grant 2000-2003: Study on the etiopathogenesis of Type 1 diabetes by screening molecular repertoires with diabetic sera. Principal Investigator: Dr A. Fierabracci

Italian Ministry of Health Grant 2002: Autoimmunity in idiopathic non-genetic deafness. Principal Investigator: Dr L. Giovannelli, Ospedale Bambino Gesù'; Collaborative Research Unit: Dr A. Fierabracci

Italian Ministry of Health Grant 2000-2003: Dilatative cardiomyopathy: virological, immunological and molecular investigation. Principal Investigator Dr MG Gagliardi, Ospedale Bambino Gesù'; Collaborative Research Unit: Dr A. Fierabracci

Italian Ministry of Health Research Grant 2002-2003: Identification of the 'pre-diabetic pancreas': implications for pancreatic transplantation and for the investigation of Type 1 diabetes etiopathogenesis. Project Coordinator Prof GF Bottazzo, Ospedale Bambino Gesù'; Principal Investigator: Dr A. Fierabracci

Italian Ministry of Health Research Grant Ricerca Finalizzata 2002-2003: Lupic nephropathy and full-house nephropathy: their clinical and epidemiological investigation with special reference to the pathogenetic mechanisms of kidney damage. Project Coordinator Prof GF Rizzoni, Ospedale Bambino Gesù'; Principal Investigator: Dr A. Fierabracci

Italian Ministry of Health Grant 2002-2003: Alternative approaches to cardiac transplantation in paediatric age: myocytes and endothelial cell transplant, ventricular remodelling. Project coordinator Dr A. Di Donato, Ospedale Bambino Gesù'; Principal Investigator: Dr A. Fierabracci

Italian Ministry of Health Research Grant for Microarrays technology. Conto Capitale 2002- Ospedale Pediatrico Bambino Gesù, Roma – Ospedale Casa Sollievo della Sofferenza, San

Giovanni Rotondo. Collaborator A. Fierabracci
Italian Ministry of Research and University grant FIRB 2003-2005.
The use of molecular repertoires in investigating the
etiopathogenesis of thyroid autoimmunity: Identification of novel
autoantigen and/or antigens related to possible aetiological
factors. Project coordinator: Prof GF Bottazzo; Principal
Investigator: Dr A. Fierabracci

Italian Ministry of Health Grant 2003
Immortalisation of organ-specific cells. Principal Investigator Dr A.
Fierabracci

Italian Ministry of Health Grant 2005-2007
Ricerca Corrente. Principal Investigator Dr A Fierabracci. Studio
delle cellule staminali negli organi e tessuti dell' adulto.

Italian Ministry of Health Grant 2005-2007
Ricerca corrente. Principal Investigator Dr A Fierabracci.
Identificazione di cellule T autoreattive nel sangue periferico di
pazienti diabetici neodiagnosticati e di soggetti prediabetici

Italian Ministry of Health Grant 2005-2008
Ricerca Corrente. Principal Investigator Dr A. Fierabracci. Studio
della eziopatogenesi del diabete di Tipo 1 e della
poliendocrinopatia autoimmune

Italian ministry of Health Grant 2010-2016
Ricerca Corrente. Principal Investigator Dr A. Fierabracci.
Studio della eziopatogenesi della poliendocrinopatia autoimmune
tipo 1 e sviluppo di misure di predizione e prevenzione

Research Contract sponsored by CRYOSAVE-AG (Niel, Belgium)
2015-2018 on the Patent PCT28702 (Inventors: M. Muraca, A.
Fierabracci) to test the efficacy of mesenchymal stem cell-derived
microvesicles in treating brain inflammation in epilepsy. Principal
Investigator Prof F. Vigevano; Collaborative Research Unit: Dr A.
Fierabracci (180.000 Euro)

Research Contract OPBG-SANOFI-AVENTIS Frankfurt (Germany)
regarding collaboration on Type 1 diabetes. Principal Investigator:
Dr A. Fierabracci

Research project: Testing anti-bacterial transglutaminase
antibodies in patients affected by Type 1 diabetes. Project
supported by AESKU.Kipp Institute, Wendelsheim, Germany
(collaboration with Prof A. Lerner)

ITWIIN-Associazione Italiana Donne Inventrici e Innovatrici-

Award as Selected finalist 2010, Bari, 24 June 2010

2011 EUWIIN Special Recognition Award as selected finalist, Reykjavic (Island), 6-9th September 2011

2011 EUWIIN Award BEST WOMAN INVENTOR, Category High Education (Third Prize), Reykjavik (Island), 6-9th September 2011

2014 BFIIN Special recognition Award, BFIIN (British Female Inventors and Innovators Network) Exhibition & Award and British Invention Show (BSI), London 22-25th October 2014

2014 World Invention Awards BSI Silver Medal. Consumer: A kit that detects autoreactive cells, London 22-25th October 2014

2015 Nominated for the Mosaic of Autoimmunity Award 2016

2016 'Entico Toti' Prize for Innovation, Rome 21th September 2016

European Community project FACING: The Creative industries to Innovate Entrepreneurship. Partners (ITWIIN A Fierabracci, legal representative), Confindustria Veneto, ITL group (Hungary), Goldsmiths University of London, UK, Ravensbourne College UK. First mobility action, Budapest April 18th-19th 2016

SOCIETIES:

British Diabetic Association (BDA) (1996-2000)
British Society for Immunology (BSI) (1996-2000)
Italian Medical Society of Great Britain (1996-2000)
Full registration General Medical Council UK (11/8/1997 to 11/8/2000)
European Association for the studies of Diabetes (2005-2007 and 2015)
Associazione Donne Italiane Inventrici ed Innovatrici (ITWIN) 2011-2015
Board Member and Vice-President Associazione Donne Italiane Inventrici ed Innovatrici 2012-2016
Associazione Medici Cattolici Italiani from 1986

ACADEMIC AND TEACHING EXPERIENCE:

1996: Short-term teaching experience on immunological methods to the undergraduate students of the Faculty of Science, University of Pisa, Italy

Collaboration with the Electron Microscopy Unit, Imperial Cancer Research Foundation, Lincoln's in Field, London, UK (1990-1992)

Collaboration with the Department of Pediatrics, Division of Immunogenetics, Children's Hospital of Pittsburgh, Pittsburgh, PA, USA (1998-1999)

Collaboration with the Department of Diabetes and Immunogenetics, St Bartholomew's and the Royal London School of Medicine and Dentistry, Queen Mary and Westfield College, London, UK (1999-2000)

Collaboration with the Breast Unit, St Bartholomew's and the Royal London School of Medicine and Dentistry. 1999

Collaboration with the Chemistry Department, CNR, Rome 2012-2016

Collaboration with Esperite (CRYOSAVE-AG), The Cell Factory, Niel, Belgium 2016-2018.

Supervision of projects for BSc and PhD students in Immunology and Regenerative Medicine:

BSc Project 1996, Mr R.D. Hurst: Characterisation of a putative novel IDDM-associated autoantigen

BSc Project 1997, Mr K.S. Rashid: Strategy of characterisation of phagotopes derived from the screening of random peptide libraries on phage with Type 1 diabetic sera

BSc Project 1998, Mr R. Nipah: Phage immunisation: a tool for the characterisation of IDDM-related phagotopes

PhD Project 1997-2000, Mr T.O. Ola: Search for a novel autoantigen responsible for the pathogenesis of IDDM (Supervisor: Dr A. Fierabracci; co-supervisor Dr P.A. Biro). The student has been upgraded from MPhil to PhD student in February 1998 and awarded in October 2001.

BSc Project 2000, Ms S. Barbero: Characterisation of an autoantigen identified by screening a cDNA library from human islets with the serum of newly diagnosed diabetic patients

BSc Project 2000, Ms S.Z. Hussain: Identification of importin beta as a novel autoantigen in Type 1 diabetes

Supervision of research fellow 1996:

Ms M. Bassuoni learning immunohistochemistry and protein chemistry techniques

Supervision of research fellow 1997:

Mr M. El-Habibbi: Is glycated collagen an autoantigen in Type 1 diabetes?

Supervision of volunteer research assistant 1997:

Ms I. Katsani learning molecular biology and tissue culture techniques

Supervision of visiting research fellow 1998:

Ms V. Savoia learning molecular biology techniques

Supervision of research fellow 2000 :

Ms L.R. Buckley (PhD student under Prof RDG Leslie's supervision) learning molecular biology techniques

Supervision of research student 2000:

Ms S. Singh (2nd year MBBs)

Supervision of MD student 2000:

Ms K.L. Kirkpatrick working on the expression of telomerase and osteopontin in breast cancer

Supervision of Research Fellow 2001

Mr S. Salvi working on the etiopathogenesis of Type 1 diabetes

Supervision of Research Fellow 2001-2002

Ms R. Reder working on the etiopathogenesis of human autoimmunity

Supervision of Research Fellow 2002-2003

Ms F Saura working on the etiopathogenesis of human autoimmunity

Supervision of Technical Officer 2001 for Automatic Sequencing Apparatus

Ms P. Bencivenga

Supervision of Clinical Scientists 2002-2003

Mr L. Giovannelli for the standardisation of autoimmunity assays

Supervision of research fellow 2003

Ms M.R. Guaglianone working on the isolation of adult cardiac stem cells

Supervision of post-doctoral fellow 2003-2004:

Ms L. Giuliani working on the isolation of adult cardiac stem cells

Supervision of post-doctoral fellow 2003.

Dr F. Del Vecchio working on the etiopathogenesis of human autoimmunity

Supervision of post-doctoral fellow 2004-2006

Ms Carla Lintas working on the pathogenesis of human autoimmunity

Supervision of research fellow 2003-2005

Ms Maria Ausiliatrice Puglisi working on the identification of organ-specific stem cells

Supervision of research fellow 2004-2005

Ms Laura Altieri working on the etiopathogenesis of Type 1 diabetes

Supervision of research student 2004-2005

Mr Davide Ardiri learning molecular biology and protein chemistry techniques

Supervision of MD thesis 2005

Ms Maria Silvia Accornero, awarded on October 2005. Thesis title: 'Isolation of stem cells from human adult thyroid'

Supervision of post-doctoral fellow 2006

Dr Maria Paola Santini working on cardiac regeneration

Supervision of post-doctoral fellow 2006-2008

Dr Monica Di Giovine working on autoreactive T cells in Type 1 diabetes

Supervision of post-doctoral fellow 2006-2007

Dr Pamela Bielli working on the pathogenesis of Type 1 diabetes

Supervision of Research Doctorate student 2006-2008

Dr Arianna Maiorana working on stem cells and Type 2 diabetes, awarded on April 2008, Thesis title: 'A method to isolate omental adipose stem cells in paediatric patients: perspectives in investigating the pathogenesis of metabolic syndrome'

Supervisor of Technical Officer 2001 for Automatic Sequencing Apparatus for detection of AIRE gene mutations

Dr Alessia Palma

Supervision of post-doctoral Research Fellow 2011:

Dr Manuela Budoni working on immunoregulatory properties of human mesenchymal stem cells and their microvesicles

Supervision of post-doctoral Research Fellow 2012-15:

Dr Andrea Del Fattore working on immunoregulatory properties of human mesenchymal stem cells and their microvesicles

Supervision of research student 2011-2012

Ms Annamario Milillo working on autoimmune polyendocrine syndrome type 1 (APECED) graduated on 23 May 2012

Supervision of research fellow 2012

Ms Melania Palombi working on autoimmunity

Supervision of post-doctoral fellow 2012

Dr Elena Gianhecchi working on autoimmunity

Supervision of post-doctoral fellow 2013-15

Dr Valentina Perri working on autoimmunity

Supervisione of post-doctoral fellow 2016

Dr Marsha Pellegrino working n autoimmune pathogenesis

Supervision of BSc research students 2014-2016

Mr Luca Lopercolo working on the role of PTPN22 gene polymorphisms in the etiopathogenesis of insulin-dependent diabetes mellitus (graduated on 18 march

2016)

Ms Benedetta Russo working on autoreactive and autoregulatory T cells in the etiopathogenesis of insulin-dependent diabetes mellitus

Ms Giulia Battafarrano working on microvesicles from mesenchymal stem cells

Ms Rossana Saracino working on microvesicles from mesenchymal stem cells

Supervision of BSc research student 2015-2016

Ms Arianna Capi working on the etiopathogenesis of autoimmunity

Supervision of BSc research student 2016-2017

Ms Federica Frasca working on the etiopathogenesis of autoimmunity

Supervision of post-doctoral fellow 2016

Dr Valeria La Marca working on the immunoregulatory activity of microvesicles isolated from mesenchymal stem cells

Attended Staff Development workshops 1998 on Making presentations, Understanding student learning, Supervising student projects and dissertations, Problem based learning 1998-1999.

Tutorials to the undergraduate students of the Faculty of Medicine, Queen Mary and Westfield College, on Molecules, Cells and Tissue Module 1997 (Convenor Dr M. Carroll) covering aspects of physiology and pharmacology.

Tutorials to the undergraduate students of the Faculty of Medicine, Queen Mary and Westfield College, on Endocrinology Module 1998 (Convenor Prof G.P. Vinson) and on Cells and Pathogens in Medicine and Dentistry Module 1998 (Convenor Dr J. Hinson). Tutor on the Self Directed Learning Module on Clinical Immunology to the undergraduate students in 1999. Tutor on the Problem based learning Module on Cardiorespiratory Medicine and Metabolism for the year 2000.

Tutor of 8 4th year Medical students in preparing their Pathology Dissertation with the title : Genetic background and environmental factors in the aetiopathogenesis of Type 1 diabetes (1999-2000).

Marking of Pathology assessments in 1999.

Assistance to Dr W.J.W. Morrow in interviewing for PhD studentship (July 1999).

Assistance to the Head of Department in refereeing peer review papers ; referee of peer review papers for Clinical and Experimental Immunology , The Open Autoimmunity Journal; Clinical Genetics; Recent Patents on Inflammation & Allergy Drug Discovery;

International Immunology; BMC Immunology; PlosOne; Journal of Endocrinological Investigation; Journal of Medical Genetics; Journal of Diabetes and Endocrinology; Journal of Cellular and Molecular Medicine; Cell Death and Disease; Endocrine Research; Cell Transplantation; Autoimmunity; Tissue & Cell; Journal of Pediatric Neuroradiology; International Journal of Molecular Sciences; Digestive disease and Science, Italian Journal of Pediatrics; Immunological Investigation; referee of a grant application to Action Research (January 2000) and Estonian Research Foundation (December 2010).

Member of the Editorial Board of 'The Open Autoimmunity Journal', Ed. Betham Organisation, 2008-2010; Member of the Editorial Board of 'Journal of Pediatric Biochemistry', Ed. IOS Press, The Netherlands 2010, Guest Editor of the Volume 'Novel therapies in autoimmunity' of the Journal 'Current Pharmaceutical Design', Member of Editorial Board of 'IRSS Endocrinology'. Editorial Board of Journal of Pediatric Biochemistry, Journal of Autoimmunity and Clinical Research, Editorial Board of the 'Open Immunology Journal' and 'Annals of Thyroid Research' from 2014. Editorial Board of 'International Journal of Autoimmune Disorders & Therapy' 2015.

Assistance to the Head of Department in writing research grant applications; applicant for research grants.

2009- Collaboration on thyroid cancer stem cells with the Department of Endocrinology, University of Catania, Professor Francesco Frasca

2007-2011 Collaboration with Professor Franco Mosca, Department of Surgery, Pisa University

Oral presentations in International Meetings:

XXI European Thyroid Association, Cardiff, UK, 4-9th July, 1993

International Meeting Immunology of Diabetes, Orvieto, Italy, 31th October-3th November, 1995

International Meeting Immunology of Diabetes, Camberra, Australia, 8-11th December 1996

International Diabetes Federation meeting, Helsinki, Finland, 20-25th July 1997

Symposium on Retroviruses and Autoimmune Diseases, Kennedy Institute of Rheumatology, London, 7th July 1998: Retroviral superantigens and Type 1 diabetes mellitus (Invited speaker)

Fifth SIMDO (Societa' Italiana Medici Diabetologi Ospedalieri) meeting, Capri 7-8 October 1999: Sono i retrovirus responsabili della patogenesi del diabete mellito insulino-dipendente? (Invited speaker)

Immunology of Diabetes Society (IDS) Symposium, Venice, 23-25th March 2000:

Are there new insights in the aetiopathogenesis of Type 1 diabetes and human autoimmunity? (Invited speaker)

37th Annual Meeting European Association Studies on Diabetes (EASD), Glasgow, United Kingdom, 9-13th September 2001

International Workshop 'From Stem Cell Biology to Cell and Gene therapy Applications', Abano Terme, Padova, 6-8th October 2003

30th Annual Meeting of the European Thyroid Association, Istanbul, 18-22th September 2004

41st Annual Meeting European Association Studies on Diabetes (EASD), Athene, Greece, 10-15th September 2005

34th Annual Meeting of the European Thyroid Association, Lisbon (Portugal), 5-9th September 2009 (Topic highlights section)

III Congresso Associazione Italiana della Tiroide (AIT) and XXVII Giornate Italiane della Tiroide, Siena, 10-12th December 2009 (Plenary Oral Presentation)

'IX International Congress on Autoimmunity' Nice (France) 26-30th March 2014

Stati generali del Diabete. Riunione dell' Intergruppo parlamentare Camera-Senato sul Diabete- Istituto Superiore di Sanità 13th November 2016

Meeting OPBG-Cryosave. The immunomodulatory activity of microvesicles derived from mesenchymal stem cells. Rome 5th October 2015

Meeting with Rare Diseases Research Area, 18 November 2015. Oral presentation 'Uso di microvescicole isolate da cellule staminali mesenchimali nella terapia e prevenzione della epilessia su base infiammatoria'.

'X International Congress on Autoimmunity' Leiden (Germany) 6-10th April 2016

Oral presentations in:

William Harvey Day, 15th October 1996, St Bartholomew's and the Royal London School of Medicine and Dentistry: Searching for IDDM-related autoantigens by random peptide library screening

Cellular and Molecular Mechanisms Research Group, St Bartholomew's and the Royal London School of Medicine and Dentistry, 14th February 1997: The use of phage peptide libraries in the search for insulin-dependent diabetes mellitus-related antigenic epitopes

Young Researchers Meeting, St Bartholomew's and the Royal London School of

Medicine and Dentistry, 27th October 1997: Identification of islet-related mimotopes by screening random peptide libraries on phage with Type 1 diabetic sera

Cellular and Molecular Mechanisms Research group, St Bartholomew's and the Royal London School of Medicine and Dentistry, 12th December 1997: Retroviruses and Type 1 diabetes

Internal Seminars Department of Immunology, St Bartholomew's and the Royal London School of Medicine and Dentistry, London, UK

Internal Seminars (1999) Department of Pediatrics, Division of Immunogenetics, Children's Hospital, University of Pittsburgh, Pittsburgh, PA, USA

Fourth meeting 'Giornate Scientifiche Ospedale Pediatrico Bambino Gesù', Rome 31 January-1 February 2001

Riunione su 'Nefropatia lupica e Full House Nephropathy: studio clinico, epidemiologico dei meccanismi e dell' evolutività del danno renale', Ospedale Bambino Gesù', Roma 24 June 2003.

Riunione su 'Nefropatia lupica e Full House Nephropathy, Ospedale Bambino Gesù, Roma, 27 November 2003.

10° Incontro di Informazione Scientifica, 21-22 January 2004, Ospedale Bambino Gesù', Roma: Alla scoperta delle cause della autoimmunità e dei meccanismi di rigenerazione tissutale.

Riunione su 'Nefropatia lupica e Full House Nephropathy, Ospedale Bambino Gesù', Roma, 16 April 2004

Riunione su 'Nefropatia lupica e Full House Nephropathy, Ospedale Bambino Gesù, Roma, 15 June 2005

Invited Lecture to the undergraduate students, Faculty of Medicine, Istituto S. Anna, Scuola Normale superiore, Pisa, 7 April 2004: Recenti acquisizioni e nuove metodologie nello studio della patogenesi della autoimmunità umana.

Academic year 2004-2010: Honorary Professor . Lecture to the 3th year trainees of the Specialist Training in Pediatric Surgery, University of Siena, Italy on 'Biology and therapeutic use of Stem cells' (Convenor Prof M. Messina).

Academic year 2008: Honorary Professor on 'Biotechnologies applied to transplantation'. Lectures to the 5th year trainees of the Specialist Training in General Surgery, University of Pisa, Italy (Convenor Prof F. Mosca)

Invited Seminars OPBG, Rome May 9th, 2006: Cellule staminali residenti negli organi e tessuti dell' adulto' e ' Tecniche istologiche per la rivelazione di cellule staminali

iniettate e tecniche di cell tracking'

Invited Lecture 4th OPBG/Kinderspital Joint workshop 'Transplantation and stem cell research', Rome May 12th, 2006: 'Resident adult stem cells in human tissues'.

Invited Lecture to students of research Doctorate on Immunology of Transplantation, University of Pisa, Italy, 30 May 2006: 'Identificazione e caratterizzazione di cellule staminali residenti in tiroide, pancreas e cuore umani e prospettive di applicazione in modelli animali'

Invited Lecture 5th OPBG/Kinderspital Joint workshop 'Transplantation and stem cell research', Munich (Germany) September 20-22, 2006: 'Detection of GAD65 reactive T cells in the peripheral blood of newly diagnosed Type 1 diabetic patients'.

Invited Lecture Rotary CLUB Foro Italico Roma, Rome 5 March 2007 'Recenti acquisizioni nel campo delle malattie autoimmuni'.

Invited Lecture to students of Research Doctorate on Immunology of Transplantation, University of Pisa, Italy, 24 April 2007: Recenti acquisizioni sulla patogenesi delle malattie autoimmuni.

Academic year 2007-2008: Honorary Professor. Lectures to the 5th year trainees of the Specialist Training in General Surgery, University of Pisa, Italy on 'Biotechnologies applied to Transplantation' (Convenor Prof F. Mosca) and to students of Research Doctorate on Immunology of Transplantation (Convenor Prof BM Longoni), University of Pisa:

Lecture on 16th June 2008: Stem cells and their application in regenerative medicine
Lecture on 27th June 2008: Populations of stem/progenitor cells in human adult organs.

Lecture on 18th July 2008: Stem/progenitor cells in the human adult pancreas

Lecture on 12th September 2008: Stem/progenitor cells in the human heart and experimental models of cardiac regeneration

Academic year 2008-2009: Honorary Professor. Lectures to the 5th year trainees of the Specialist Training in General Surgery, University of Pisa, Italy on 'Biotechnologies applied to Transplantation' (Convenor Prof F. Mosca) and to students of Research Doctorate on Immunology of Transplantation (Convenor Prof BM Longoni), University of Pisa:

Lecture on 16th March 2009: Recenti acquisizioni sulla patogenesi delle malattie autoimmuni.

Lecture on 8th May 2009: Le cellule staminali del tessuto adiposo omentale: prospettive di utilizzo nello studio della patogenesi della sindrome metabolica.

Lecture on 12th June 2009: Cellule staminali e progenitori della tiroide umana.

Lecture on 10th July 2009: I progenitori del pancreas umano.

Lecture on 26th September 2009: Caratterizzazione e plasticità delle cellule staminali/progenitori tiroidei: un modello di studio per la rigenerazione d'organo.

Course (theoretical/practical) on resident adult stem cells in the human thyroid, 23-

28 November 2009, University of Catania

Academic year 2009-2011: Honorary Professor. Lectures to the 5th year trainees of the Specialist Training in General Surgery, University of Pisa, Italy on 'Biotechnologies applied to Transplantation' (Convenor Prof F. Mosca) and to students of Research Doctorate on Immunology of Transplantation (Convenor Prof BM Longoni), University of Pisa:

Lecture on 11th June 2010: Modelli animali di diabete mellito insulino-dipendente (diabete di Tipo 1)

Lecture on 2nd July 2010 : Le malattie autoimmuni

Lecture on 23th July 2010 : Immunoterapie nel Diabete di Tipo 1: lezioni dai modelli animali

Lecture on 24th September 2010: Recenti acquisizioni sul ruolo e meccanismi molecolari del gene Regolatore dell' Autoimmunità (AIRE)

Lecture on 28th October 2010 to the 3th year trainees of the Specialist Training in Pediatric Surgery, University of Siena, Italy: Recenti acquisizioni sulla patogenesi della malattie autoimmuni nell 'uomo

Academic year 2010-2011: Honorary Professor. Lectures to the 5th year trainees of the Specialist Training in General Surgery, University of Pisa, Italy on 'Biotechnologies applied to Transplantation' (Convenor Prof F. Mosca)

Lecture on 22th July 2011: Immunoterapia del diabete di Tipo 1: dal modello animale all' uomo.

Lecture on 7th December 2011: Utilizzo di differenti immunomodulatori nel diabete di Tipo 1

Lecture on 2nd March 2012: Strategie di predizione della poliendocrinopatia autoimmune

Lecture on 11th May 2012: Le microvescicole da cellule staminali mesenchimali e le loro proprietà immunomodulatorie

ITWIIN-Associazione Italiana Donne Inventrici e Innovatrici- 2010 Conference & Award, Award as Selected finalist, Bari, 24 June 2010: Metodo per la rivelazione di cellule T autoreattive nei confronti di GAD65 nei pazienti neodiagnosticati per diabete di Tipo 1 e nel periodo prediabetico.

Strategie di predizione della poliendocrinopatia autoimmune. Ospedale Bambino Gesù, Roma 18 ottobre 2011

Radio 24 interview on 20th september 2011

Conference Organization and invited speaker 'La donna nella società della conoscenza tra ricerca, innovazione, impresa' ITWIIN-Parlamento europeo, sede di Roma, 27 marzo 2012.

Guest of TV2000 Teletransmission Conference on 6 June 2012 entitled ' Oggi invento'

Conference Organization and invited speaker in the conference 'Premio ITWIIN 2012': round table 'Eccellenza femminile e responsabilità sociale', Rome, Palazzo Valentini,

Provincia di Roma, 9 Novembre 2012

Invited speaker German Endocrine Society, Regensburg, 15-17 November 2012
'Relevance of stem cells in thyroid tumorigenesis'

Round Table on starting Network 'Africae Munus Project'-Fondazione il Buon Samaritano. Pontificio Consiglio per gli Operatori Sanitari, Città del Vaticano, 19 November 2013

30 november 2012. TV7 Rai 1 Special Tg1. Invited to the X° Conference Confindustria-RAI on 'Research and Innovation'

Round Table ITWIIN, CNR, Women and Science on 'Leadership femminile e agenda per lo sviluppo. Formazione, ricerca, Innovazione, Imprenditorialità'. CNR, 21 June 2013.

ITWIIN Conference 2013, Aula Odeion, University La Sapienza, 18 November 2013-Invited speaker and member of the judging panel for the Best Woman Inventor 2013.

Invited speaker 'IX International Congress on Autoimmunity' Nice (France) 26-30th March 2014 on 'The putative role of proteolytic pathways in autoimmunity'.

24 October 2014 Bahrain TV Interview at British Invention Show, London Barbican Centre, 22-25th October 2014

Invited speaker on Round Table 'Quel premio era di una donna. Analisi e prospettive della presenza femminile nella ricerca' (That Prize was for a woman. Analysis and perspectives of the woman presence in Research). Pontedera (Pisa), ITI Institute, 18 April 2015.

Invited speaker 'X International Congress on Autoimmunity' Leipzig (Germany) 6-10th April 2016 on 'Altered B cell homeostasis and toll-like receptor 9-driven response in patients affected by autoimmune polyglandular syndrome type 1 (APECED)'

PUBLICATIONS

RESEARCH ARTICLES:

1987

A. Antonelli, P. Del Guerra, **A. Fierabracci**, E. Gori, L. Baschieri.
Effect of salmon calcitonin on symptoms and urinary excretion of 5 hydroxyindololeacetic acid in the carcinoid syndrome. *British Medical Journal*

205: 961, 1987

1989

L. Baschieri, M. Castagna, **A. Fierabracci**, A. Antonelli, P. Del Guerra, F. Squartini.

Distribution of calcitonin and somatostatin containing cells in thyroid lymphoma and in Hashimoto's thyroiditis. *Applied Pathology* 7: 99-101, 1989.

A. Fierabracci and R. Palla.

The immunogold-silver staining: new method for immunohistochemistry. *Journal of Nephrology* 2: 291-292, 1989.

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BOOK EDITOR

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SUMMARY OF RESEARCH INTERESTS:

The research interests of Dr Alessandra Fierabracci are related to the etiopathogenesis of the organ-specific autoimmune diseases with special reference to insulin-dependent diabetes mellitus (T1D). This disorder is caused by the destruction of the pancreatic beta cells producing insulin by autoreactive T lymphocytes. A close interaction between genetic and still unrecognised environmental factors underlies the etiopathogenesis of the disease. Patients present in the peripheral blood circulating autoantibodies directed against specific islet-related proteins called autoantigens. Although the role of autoantigens in the pathogenesis of the disease is still unknown, related autoantibodies represent predictive markers in the preclinic stage of the disease onset.

The studies of Dr Fierabracci's Laboratory aim to understand the etiopathogenesis of T1D in order to improve prediction and prevention of the disease onset by searching for novel autoantigens, genetic and environmental factors, but also trying to elucidate cell-mediated immune mechanisms causing insulinitis. A novel method was implemented to detect and characterise in the peripheral blood of newly diagnosed patients glutamic acid decarboxylase GAD65 autoreactive T lymphocytes based on the use of the tetramer/pentamer technology. Since cytotoxic T lymphocytes are the effective killers of the islet beta cells, this result would lead not only to understand the disease etiopathogenesis but also to improved predictive strategies of the disease onset.

The Laboratory has also identified novel mutations of the *AIRE* (AutoImmune REgulator) gene in patients affected by Autoimmune polyglandular syndrome Type 1 (APECED). Genetic analysis of *AIRE*, *PTPN22* and *NFKB2* genes are also conducted in patients affected by associated autoimmunity and immunodeficiency conditions. The identification of these markers should help clinicians to improve diagnosis of the different categories of patients together with known circulating anti-cytokines autoantibodies with special reference to anti-IFN ω autoantibodies.

A particular goal is to develop antisense oligonucleotides conjugated to immunoliposomes as a novel immunotherapy in T1D and autoimmune polyendocrine syndrome Type 3 variant (APS3v).

Another line of investigation of the Laboratory is aiming to improve the treatment of immune-mediated disorders with special reference to autoimmune disorders by using microvesicles derived from mesenchymal stem cells whose immunoregulatory properties on T and B lymphocytes have been extensively investigated by Dr Fierabracci's group. At present the use of microvesicles is exploited for the treatment of chronic inflammation in a mice model of epilepsy.

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