

CURRICULUM VITAE
Antonio Cassone, Ph.D., M.D.
plus
SELECTED LAST 5-YEARS PUBLICATIONS

EDUCATIONAL BACKGROUND

First University of Rome "La Sapienza":

School of Biological Sciences. Degree with honours in Biology, with presentation and discussion of experimental thesis (doctorate, 3 years) (1967)

Medical School. Degree with honours in Medicine and Surgery with presentation and discussion of experimental thesis (2 years) (1974).

PROFESSIONAL EXPERIENCE

Assistant Professor of Microbiology, Medical School, University of Rome, "La Sapienza", 1970-1984.

Associate Professor of Medical Microbiology, University of Rome "La Sapienza", 1975-1984.

Fellow and Associate of Chemical Microbiology, Department of Biochemistry, University of Cambridge, United Kingdom, 1977-1978.

Full Professor of Medical Microbiology, University of L'Aquila, Italy, 1987.

Professor of Medical Mycology, Special School of Parasitology and Infectious Diseases, Catholic University, Rome, Italy.

Research Director, Istituto Superiore di Sanità (ISS) (National Health Institute), Rome, Italy.

· Chief of the Laboratory of Bacteriology and Medical Mycology at I.S.S. (Staff plus guests and students: around 100 people), 1988-2202.

PRESENT POSITION

Chief of the Department of Infectious, Parasitic and Immune-mediated Diseases, ISS, (staff plus guests and students: around 400 people)

AWARDS, HONOURS AND GRANTS

· Diploma of the American Academy of Microbiology. Special Fellowship Distinction in recognition of "Outstanding Contributions to the Science and Profession of Microbiology", February, 1995.

· "Agostino Bassi" Award by the Federation of Medical Mycology Societies for Special Distinction in Research and Profession of Medical Mycology, May 1998.

National Research Council (CNR, Italy): Targeted Project F.A.T.M.A., 1974-78, Chief Research Unit (CRU)

National Research Council (CNR, Italy): Special Project "Antibiotics" (CRU)

National AIDS Program (I.S.S., Rome, Italy), Special Projects 1990-1996

"Immunopathogenesis" and "Opportunistic Infections"(CRU.)

European Group on Candidiasis (Unit Mannoproteins). E.E.C., Europe (CRU.) 1993-1997.

National Tuberculosis Project (Scientific Director) (1994-1998)

National AIDS Program. Project "Opportunistic Infections and Tuberculosis" (Scientific Director) (1997-present).

Italian Trial Acellular Pertussis Vaccines (1991-19994). Cell-mediated Immunity Section, Director

National Research Programme “Role of Infectious Agents in cardio- and cerebrovascular diseases” (Director) (1998-present).

European ADRI Project: novel therapeutic approaches in infectious disease (2001-2004) (CRU)

European Project “MICROBEARRAY” (2004-present) (CRU)

European Project “ MUVAPRED (Mucosal Vaccines for Poverty-Related Diseases) (CRU) (2004-2006)

Italian Special Projects on Anthrax and Antibiotic-resistance (Director: 2005-2007)

RESEARCH INTERESTS

- Experimental studies on germination of bacterial spores (1967-1970).
- Studies on bacterial and fungal Ultrastructure (1970-1980).
- Studies on morphogenesis, virulence and immunity in candidiasis and related subjects, 1970-present.
- Immunomodulation in mycoses, especially in AIDS patients (1989-present).
- Studies on vaccine immunogenicity and efficacy (1990-present).
- Studies on pertussis and tuberculosis immunology(1990-present)

DISCOVERIES ,ACHIEVEMENTS AND PATENTS

Mechanisms of bacterial spore activation. Nature and composition of Candida cell wall and fungal dimorphism. Glucan as immunoadjuvant (patent). Aspartyl proteinases as virulence factors. Heat-shock protein of *C. albicans* (patent). The anti-fungal responses in HIV-infected subjects. The role of cell-mediated immunity in pertussis vaccination. Candida protective antigens. Idiotypic antibody network and yeast killer toxin.(patent) Glucan-based vaccines. (patent). Killer toxin mimicking antimicrobial peptides. (patent). Anti-glucan antibodies and immuno-protection (patent) Role of *Chlamydia pneumoniae* in cardiovascular pathology.

MEMBERSHIPS

Società Italiana di Microbiologia

Royal Microscopical Society

Society for General Microbiology

International Society of Human and Animal Mycology

American Society of Microbiology

Infectious Disease Society of America

ADMINISTRATIVE EXPERIENCE

Directorship and administrative responsibility of the Laboratory of Bacteriology and Medical Mycology (70 staff and 30 contracts). Directorship and administrative responsibility of the Department of Infectious, Parasitic and Immune-mediated Diseases (400 staff plus contracts).

PROFESSIONAL AND SERVICE ACTIVITIES

Director of Supranational Reference Centre for antimicrobial drug resistance (1998 -) ; Director of the Italian Antibiotic Resistance Forum (2000 -) ; General consultant for the Italian Public Health Advisory Board (1988 -) ; European Public Health Laboratories Consultant Organisation (1990 -) ;WHO Global TB Research Control Initiative (1996 -). Consultant of Public Health Laboratory Service (UK) for research and activity programs (2001-).

Offices held/committee service/symposia organizer

1998 – Rome: First International Conference on Vaccines

1999 – Copenhagen: appointed national expert for the international conference on Antimicrobial Resistance

2001 – Visby, Sweden: appointed national expert for the international conference on Antimicrobial Resistance
2001 – 2002, Paris, Bruxelles : Member of the Advisory Panel of the European TB Cluster Project
2001 – 2002, Berlin – Deutsche Forschungsgemeinschaft - Member of the reviewing panel of the priority programme “Novel Vaccination Strategies”
2002 – Ministry of Foreign Affairs – Rome: Appointed expert in the convention for the fight against biological hazard and weapons.
2002 - PHLS, CPHL, London - Appointed international expert for Public Health Institute Network
2003 Rome: Second International Conference on Vaccines
2006 Rome: International Conference on Influenza and Influenza pandemics (October 2006)

Editorial board/reviewing/ teaching/Community service

1981-87 Chief Editor of the *Annali dell'Istituto Superiore di Sanità*.
1984- Member of the Editorial Board of the *Journal of Medical and Veterinary Mycology* (presently : *Medical Mycology*).
1989- Member of the Editorial Board of the "*Journal of Chemotherapy* .
1989- Member of the Editorial Board of the "*Minerva Biotecnologica*".
1990- Members of the Editorial Board of the "*Journal of Biological Regulators and Homeostatic Agents*".
1993- Member of the *Revista Ibero-Americana de Micologia*.
Current Reviewer for qualified international Journals (e.g. *Infection and Immunity* , *Journal of Infectious Diseases*, *Antimicrobial Agents and Chemotherapy*, *Journal of Investigative Dermatology*, *Clinical and Diagnostic Laboratory Immunology*, *Journal of Immunology* and others).
Current Reviewer of Research Project for E.C., U.S. National Science Foundation and other National and International Research Bodies.
January 2000, -present .Imperial College of Science Technology and Medicine, London. U.K. Molecular Cellular Parasitology Course (Lecturer in Vaccine Efficacy Trials)
2002 -present : Electronic Learning – Bioterrorism - AMCLI, Rome ; Graduate Course in Infection and Immunity, Tor Vergata University, Rome; Course on Bioterrorism, Rome ISS
General counselling in public health. In particular: medical microbiology, infectious diseases,. Vaccines and vaccination in infants and adults.

PUBLICATIONS: general information

Author or co-author of 252 publications in peer-reviewed, international journals, inclusive of *Nature*, *Nature Biotechnology*, *Annals of Internal Medicine*, *Journal of Experimental Medicine*, *Proceedings of the National Academy of US*, *Lancet*, *Circulation*, *Journal of Infectious Diseases* , *Journal of Immunology*, *Journal of Bacteriology*, *Infection and Immunity* and other high-rank journals; 45 Invited Reviews and chapters of international books ; 78 Publications in national journals. 161 out of the 252 peer-reviewed papers were published as first or senior author.

OFFICIAL INVITATIONS:

72 invitations to International Congresses, over the last 20 years, as Chairman or Speaker.

CITATIONS

In the last ISI citation survey known (1990- today), 202 papers surveyed in this period received >4000 citations with an average of about 20 cites/paper.

SELECTED PAPERS PERIOD 2000-2006

1. Ausiello CM., Lande R., Urbani F., Di Carlo B., Stefanelli P., Salmaso S., Mastrantonio P., **Cassone A.** Cell mediated immunity and antibody responses to Bordetella pertussis antigens in children with history of pertussis infection and in recipients of an acellular pertussis vaccine **Journal of Infectious Diseases.** 181 : 1989-95, 2000.
2. La Valle R., S. Sandini, M.J. Gomez, F. Mondello, G. Romagnoli, R. Nisini, **Cassone A.** Generation of a recombinant 65-kilodalton mannoprotein (MP65), a major antigen target of cell mediated immune response to Candida albicans. **Infection and Immunity.** 68:6767-784, 2000.
3. Beninati C., M.R. Oggioni, M. Boccanera, M.R. Spinosa, T. Maggi, S. Conti, W. Magliani, F. De Bernardis, G. Teti, **Cassone A.**, G. Pozzi, L. Polonelli. Therapy of experimental mucosal candidiasis by engineered human commensal bacteria expressing a microbicidal recombinant antiidiotype. **Nature Biotechnology**, 18 : 1060-4, 2000.
4. Cassone A., P. Mastrantonio, C.M. Ausiello. Are only antibody levels involved in the protection against pertussis in acellular pertussis vaccine recipients ? **Journal of Infectious Diseases**, 182 : 1575-1576, 2000.
5. Nisini R., Romagnoli G., Gomez M.J., La Valle R., Torosantucci A., Mariotti S., Teloni R., **Cassone A.** Antigenic properties and processing requirements of 65-kilodalton mannoprotein, a major antigen target of anti-Candida human T-cell response, as disclosed by specific human T-cell clones. **Infection and Immunity**, 69:3728-36, 2001.
6. Ciervo A., Visca P., Petrucca A., Biasucci L.M, Maseri A., **Cassone A.** Antibodies to 60-Kilodalton Heat Shock Protein and Outer membrane Protein 2 of Chlamydia pneumoniae in patients with coronary heart disease. **Clinical and Diagnostic Laboratory Immunology** 9:66-74, 2002.
7. Magliani W., Conti S., **Cassone A.**, De Bernardis F., Polonelli L. New immunotherapeutic strategies to control vaginal candidiasis. **Trends in Molecular Medicine**, 8:121-126, 2002.
8. De Bernardis F., Boccanera M., Adriani D., Girolamo A., **Cassone A.** Intravaginal and intranasal immunizations are equally effective in inducing vaginal antibodies and conferring protection against vaginal candidiasis. **Infection and Immunity**, 70:2725-2729, 2002
9. Piccinni M.P., Vultaggio A., Scaletti C., Livi C., Gomez M.J., Giudizi M.G., Biagiotti R., **Cassone A.**, Romagnani S., Maggi E. Type 1 T helper cells specific for Candida albicans antigens in peripheral blood and vaginal mucosa of women with recurrent vaginal candidiasis. **Journal of Infectious diseases.** 186:87-93, 2002.
10. Ausiello C.M., Fedele G., Urbani F., Lande R., Di Carlo B., **Cassone A.** Native and genetically inactivated pertussis toxins induce human dendritic cell maturation and synergize with lipopolysaccharide in promoting Th type 1 responses. **Journal of Infectious Diseases.** 186:351-60, 2002.
11. Santoni G., Boccanera M., Adriani D., Luccarini R, Amantini C., Morrone S., **Cassone A.**, De Bernardis F. Immune-mediated protection against vaginal candidiasis: evidence for a major role

of vaginal CD4+ T cells and possible participation of other local lymphocyte effectors. **Infection and Immunity**. 70:4791-7, 2002.

12. Bromuro C., Torosantucci A., Chiani P., Conti S., Polonelli L., **Cassone A.** Interplay between protective and inhibitory antibodies dictates the outcome of experimentally disseminated candidiasis in recipients of a *Candida albicans* vaccine. **Infection and Immunity**. 70 : 5462-70, 2002.
13. Biasucci LM., Liuzzo G., Ciervo A., Petrucca A., Piro M., Angiolillo DJ., Crea F., **Cassone A.**, Maseri A. Antibody Response to Chlamydial Heat Shock Protein 60 Is Strongly Associated With Acute Coronary Syndromes. **Circulation**. 2003, 107: 3015-3017.
14. Benagiano M, Azzurri A, Ciervo A, Amedei A, Tamburini C, Ferrari M, Telford JL, Baldari CT, Romagnani S, **Cassone A**, D'Elis MM, Del Prete G. T helper type 1 lymphocytes drive inflammation in human atherosclerotic lesions. **Proceedings of National Academy of Sciences U S.**;100:6658-63. 2003.
15. Anzini A, **Cassone A**, Rasura M, Ciervo A, Beccia M, Di Lisi F, Fieschi C. Chlamydia pneumoniae infection in young stroke patients: a case--control study. **European Journal of Neurology**. 11(5):321-7, 2004
16. Ciervo A, Petrucca A, Visca P, **Cassone A.** Evaluation and optimization of ELISA for detection of anti-*Chlamydomydia pneumoniae* IgG and IgA in patients with coronary heart diseases. **Journal of Microbiological Methods**. 59:135-40, 2004
17. Flego M, Di Bonito P, Ascione A, Zamboni S, Carattoli A, Grasso F, **Cassone A**, Cianfriglia M. Generation of human antibody fragments recognizing distinct epitopes of the nucleocapsid (N) SARS-CoV protein using a phage display approach. **BMC Infectious Diseases Dis**. 19;5:73, 2005
18. Torosantucci A, Bromuro C, Chiani P, De Bernardis F, Berti F, Galli C, Norelli F, Bellucci C, Polonelli L, Costantino P, Rappuoli R, **Cassone A.** A novel glyco-conjugate vaccine against fungal pathogens. **Journal of Experimental Medicine** 202:597-606, 2005
19. Benagiano M, D'Elis MM, Amedei A, Azzurri A, van der Zee R, Ciervo A, Rombola G, Romagnani S, **Cassone A**, Del Prete G. Human 60-kDa heat shock protein is a target autoantigen of T cells derived from atherosclerotic plaques. **Journal of Immunology**;174:6509-17, 2005
20. Savarino A, Cauda R, **Cassone A.** Aspartic proteases of *Plasmodium falciparum* as the target of HIV-1 protease inhibitors. **Journal of Infectious Diseases** ;191:1381-2; 2005 author reply 1382-3.
21. De Bernardis F, Lucciarini R, Boccanera M, Amantini C, Arancia S, Morrone S, Mosca M, **Cassone A**, Santoni G. Phenotypic and functional characterization of vaginal dendritic cells in a rat model of *Candida albicans* vaginitis. **Infection and Immunity**. ,74:4282-94, 2006

22. Casoli C, Pilotti E, Perno CF, Balestra E, Polverini E, **Cassone A**, Conti S, Magliani W, Polonelli L. A killer mimotope with therapeutic activity against AIDS-related opportunistic micro-organisms inhibits ex-vivo HIV-1 replication. **AIDS**. ;20:975-80, 2006.
23. Ausiello CM, Fedele G, Palazzo R, Spensieri F, Ciervo A, **Cassone A**. 60-kDa heat shock protein of *Chlamydia pneumoniae* promotes a T helper type 1 immune response through IL-12/IL- production in monocyte-derived dendritic cells. **Microbes and Infection**. ;8:714-20, 2006
24. Savarino A, Di Trani L, Donatelli I, Cauda R, **Cassone A**. New insights into the antiviral effects of chloroquine. **Lancet Infectious Diseases**.;6:67-9, 2006
25. De Bernardis F., Haiqun Liu, Rachel O'Mahony, Roberto La Valle, Silvia Bartollino¹, Silvia Sandini¹, Steven Grant², Neil Brewis², Ian Tomlinson, Rachel C. Basset, John Holton³, Ivan M. Roitt³, **Antonio Cassone** Human Domain Antibodies against Virulence Traits of *Candida albicans* Inhibit Fungus Adherence to Vaginal Epithelium and Protect against Experimental Vaginal Candidiasis. **Journal of Infectious Diseases** , in press, 2006.