|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Full Name: **Antonio TONIOLO, MD, FAMH**  Nationality: Italy Current location: Varese, Italy  **Open Researcher and Contributor ID (ORCID):** <http://orcid.org/0000-0003-3008-2126>  **BIOGRAPHICAL SKETCH** | | | | |
|  | POSITION Retired Professor of Medical Microbiology and Director, Clinical Microbiology - University of Insubria Medical School and Ospedale di Circolo. Currently: Member of the Global Virus Network, Baltimore, MD.  Tel. +39-0332-212.068, mobile +39-338-801.0722  email: [antonio.toniolo@uninsubria.it](mailto:antonio.toniolo@uninsubria.it) ; [antonio.toniolo@gmail.com](mailto:antonio.toniolo@gmail.com)  Linkedin: <https://www.linkedin.com/in/antonio-toniolo-56a6a54/> | | | |
| **SUMMARY**  Medically-qualified Research and Clinical Microbiologist (1972 MD degree, University of Pisa Medical School; 1976 Specialty in Medical Microbiology and Virology, University of Pisa). Licensed for practicing Medicine and Clinical Microbiology in the European Union and Switzerland. Served as Full Professor of Medical Microbiology at four Medical Schools in Italy:   * University of Sassari with clinical appointment (1985-1989) * University of Pisa (1989-1991) * University of Pavia with clinical appointment (1991-1998) * University of Insubria, Varese with clinical appointment (1998-2018)   Visiting Professor at the University of Reims (1987), University of Tokyo (1997, 2007), Int. School Med Sci, Republic of Panama (2014).  Long expertise in Clinical Microbiology and Virology (culture-based and molecular and immunity diagnostics, antimicrobial therapy, vaccines) at tertiary care Academic Medical Centers. Contributed to the mission of his Departments via participation in research and teaching programs, training medical residents, mentoring PhD students, continuing medical education programs, infection control. Performed basic and translational research. Served as Director of two PhD programs: Medical Microbiology (1992-1997) and Translational Medicine (2009-2017), mentoring over 50 PhD students (below is a list of supervised PhD theses). He was leading a team of 25 for medical research and diagnosis. Was responsible for financial (7 ME turnover), quality, and strategic management. Introduced automated microbiology (platforms from BD-Kiestra plus MALDI-Biotyper, Accelerate Diagnostics, Abbott Molecular, Hologic, Diasorin, Alifax). Bacterial and fungal identification by mass spectrometry/genome sequencing, viral identification through genome sequencing and immune reactivity. In vitro susceptibility to antimicrobials (EUCAST and CLSI criteria). Infectious serology and cell-mediated immune response to infectious agents.  In 2015, his laboratory was renewed with state-of-the art technology and infrastructure with biosafety up to the BSL3 level. Half million diagnostic tests/year for infectious diseases. Lab services have been increasing 5-10% year over year with a net margin of 15-20%. The implementation of a novel IT system interacting with the Public Health System (public hospitals, private clinics, general practitioners, individual patients) reduced hospital-related infections and hospital stay at his Medical Center.  Research: viral etiology and pathogenesis of chronic disorders (diabetes, autoimmune thyroiditis, cardiomyopathy, post-polio syndrome); endocrine changes in lethal COVID-19 cases; autoimmunity. Collaborative research with international groups: USA, Japan, Finland, Norway, UK, France, Switzerland. Funding from the Italian Ministry of Health, the Juvenile Diabetes Research Foundation (New York, USA), the University of Miami (Miami, USA), Post-Polio Health International (St. Louis, USA), the European Polio Union (Bruxelles, Belgium), The University of Tokyo (Tokyo, Japan), the Riken Institute (Tokyo, Japan), the Norwegian Research Council (Oslo, Norway). Clinical studies for Pharma Companies and CROs.  Member, PhD evaluation committees for the following Universities: Oslo, Tampere, Amsterdam, Dusseldorf, Barcelona, Tokyo (Top50 world University 2023), National University of Singapore (Top50 world University 2023), Sains Malaysia, Jordan (Amman), and INSERM (Paris). | | | | |
| **EDUCATION AND TRAINING** | | | | |
| **INSTITUTION AND LOCATION** | | **DEGREE** | **YEAR(S)** | **FIELD OF STUDY** |
| Liceo Classico, Pisa, Italy | | Baccalaureate | 07/1966  (5 yrs) | Humanities, art, latin, ancient greek, philosophy, science, math, physics, chemistry |
| University of Pisa Medical School, Pisa, Italy | | MD degree (cum laude) | 12/1972  (6 yrs) | Medical sciences |
| License to practice Medicine in the European Community | | Medical Doctor | 02/1976  (3 yrs) | Clinical Sciences |
| Dipartimento Federale dell’Interno, DFI, CH - License to practice Medicine in the Swiss Confederation | | Medical Doctor | 02/2012 | Clinical Sciences |
| Department of Microbiology, University of Pisa, Italy | | Specialist in Clinical Microbiology (cum laude) | 10/1976  (4 yrs) | General microbiology, pathology, immunology. Clinical bacteriology, virology, mycology, parasitology, immunology |
| Dipartimento Federale dell’Interno, DFI, CH - License to practice Clinical Microbiology in the Swiss Confederation | | Specialist FAMH in Medical Microbiology | 03/2013 | Clinical Microbiology |
| Laboratory of Experimental Medicine, National Institutes of Health, Bethesda, MD, USA | | Visiting Scientist | 1978-1981  (3 yrs) | Virus-induced endocrine disease |
| Department of Molecular Immunology, University of Tokyo, Tokyo, Japan | | Visiting Professor | 1997 and 2007 | Autoimmune and neurologic disorders |

**POSITIONS AND CAREER**

* Director, PhD Program in Translational Medicine, University of Insubria, Varese, Italy (2009-2017).
* Director, PhD Program in Medical Microbiology, University of Pavia (1992-1997)
* Director, Department of Experimental Medicine, University of Insubria, Varese, Italy (2001-2010).
* Director, Department of Clinical Pathology, Ospedale di Circolo e Fondazione Macchi, Varese (2001-2009; clinical chemistry/hematology, transfusion medicine, anatomic pathology, microbiology and virology, genetics). Team of 150 FTEs; annual budget 20-30 MEuro.
* Full Professor of Medical Microbiology at four Italian Medical Schools: University of Sassari (Nov 1985-Oct 89); University of Pisa (Nov 1989-Oct 91); University of Pavia (Nov 1991-Oct 98); University of Insubria (Aug 1998-Oct 2018).
* Associate Professor of Medical Microbiology, University of Pisa Medical School (Nov 1982-Oct 1985).
* Visiting Scientist, National Institutes of Health, Bethesda, Maryland (Sept 1978-Nov 81) – Mentor, Abner L Notkins, MD recipient of International Awards: 1983 Paul E Lacy; 1986 Paul Ehrlich; 1989 NYU Berson.
* Lieutenant Physician, Medical Corps of the Italian Army (Mar 1976-Aug 1977; 18-month service). Afterwards, Reserve Medical Captain.
* Medical Assistant, Clinical Microbiology, University of Pisa Medical School (Jan 1973-Aug 1978).

**SCIENTIFIC SOCIETIES AND REVIEWER ACTIVITIES**

* Board Member: Virus in Diabetes International Study Group (London); European Polio Union (Huldenberg, Belgium); American Society for Microbiology Ambassador to Italy (2014-2016).

• Reviewer for the following Journals: J Clinical Microbiology, J General Virology, Viruses, J Medical Virology, J Virological Methods, Future Virology, Future Microbiology, Int J Molecular Sciences, New Eng J Med, Lancet, Microbial Pathogenesis, Pathogens, PLosOne, PLoS Pathogens, eBiomedicine, Scientific Reports, Chemosphere, Nature Medicine, Nature Endocrinology, Diabetes, Diabetologia, Pediatric Diabetes, Diabetes Care, Diabetes Research and Clinical Practice.

**Membership**

Sigma Xi, Scientific Research Honor Society (Research Triangle Park, North Carolina)

American Society for Microbiology (ASM)

NIH Alumni Association (NIHAA)

Asia-Pacific Society for Medical Virology (APSV)

Global Virus Network (GVN - Baltimore, Maryland).

2018-2020 – Scientific Committee, Milan Center for Food Safety and Policy (President, Livia Pomodoro), Milano, Italy

2016 – Member, Evaluation Committee for Medical Sciences, Italian National Agency for the Evaluation of Universities and Research (ANVUR)

2014-2016 - American Society for Microbiology: ASM International Ambassador

2013-2016 - Research Scholar, Accademia dei Lincei, Roma, Italy

2013-2016 – Consultant, International School of Medical Sciences, Panama City, Panama.

2012-2014 - Chair, Italian Committee for the Selection of University Professors in Medical Microbiology

2013 - Co-Editor, volume “Diabetes and Viruses”, Springer Science, New York - “Diabetes and Viruses” 2013.

2012 - Medical Expert “Commissione Affari Sociali”, Italian Parliament, Rome

2012-2014 - External Assessor, Persistent Virus Infections Network (PEVNET), University of Tampere, Finland

2007 - Scientific Committee “Premio Nicolò Copernico”, Ferrara, Italy

2001-2006 - President, Italian Society for Medical and Clinical Microbiology.

2005-2019 - External Assessor, Microbiology and Infection: Royal Netherlands Academy for Arts and Science (Amsterdam), Agence Nationale de la Recherche (Paris), Institut National de la Santé et de la Recherche Médicale (INSERM, Paris); National University of Singapore (Singapore), Universiti Sains Malaysia (Penang), University of Jordan (Amman), University H Heine (Dusseldorf).

**RESEARCH FUNDING (2005-2022)**

* National Research Council, Oslo, Norway “Viral infections in autoimmune disorders” (2018-2022)
* University of Miami Medical School & Juvenile Diabetes Research Foundation (New York, NY) “Viral infections in diabetes” (2016-2019)
* National Ministry of Health, (Rome, Italy) “Etiology and prevention of type 1 diabetes” (2016-2019)
* Post-Polio Health International (St. Louis, Missouri) “Virology of the Late Consequences of Polio” (2014-2016)
* Juvenile Diabetes Research Foundation, JDRF (New York, NY) “Role of enteroviruses in type 1 diabetes” (2013-2016)
* Network of Pancreatic Organ Donors, nPOD (Miami, FL) “Viral infections in type 1 diabetes” (2012)
* CARIPLO Foundation (Milan, Italy): “Role of enterovirus infections in the pathogenesis of type 1 diabetes and associated autoimmune conditions” (2010-2012)
* Regione Lombardia (Milan, Italy): “Etiopathogenesis of the late consequences of polio” (2010-2013)
* Regione Lombardia (Milan, Italy): “Autologous stem cell therapy of large bone defects” (2009-2011)
* Post-Polio Health International & Fondazione Comunitaria del Varesotto: “Viral pathogenesis of the post-polio syndrome” (2008-2009)
* Fondazione Banca del Monte di Lombardia (Milan, Italy): “Cultured myoblasts as therapeutic aid in chronic cardiac failure” (2005-2007)
* The Bran Institute (Tokyio, Japan): “The prion gene complex, a possible regulator of virus susceptibility” (2006-2007)
* Ministry of Education and Research (Rome, Italy): “Antiviral drugs against picornaviruses” (2005-2006)

**AWARDS**

2014 – Post-Polio Health International “Virology of the Late Consequences of Polio”, St. Louis, Missouri

2011 - Research Award “Viral infections in type 1 diabetes”, Network for Pancreatic Organ Donors, Miami, FL

2009 - Research Award, “Viral pathogenesis of PPS”, Post-Polio Health International, St. Louis, MO

2007 - RIKEN Brain Institute, “Prion Research”, Tokyo, Japan

2001 - Wyeth-Lederle, “Bacterial drug resistance determinants”, Rome, Italy

1987 – European Erasmus Program, Young Professor Scholarship at the Universities of Reims and Paris V (3-month)

1979-81 - Fogarty International Center, Bethesda, MD - International Research Fellowship, (3-year award)

1978-79 - National Research Council, Rome, Italy - International Research Fellowship (1-year award)

**INVITED LECTURER**

Abbott Research Center, Wiesbaden, Germany; Academic Medical Center, Amsterdam, Netherlands; BD Italia, Milan and BD Heidelberg; Centro de Educatión Médica e Investigationes Clínicas “Norberto Quirino” (CEMIC), Buenos Aires; Children's Hospital Westmead; The University of Sydney, NSW, Australia; Columbia University Medical School, New York, NY; Diabetes Research Institute, Miami, FL; Georgetown University, Washington, DC; Institute for Medical Microbiology, Bellinzona, CH; Institute of Human Virology, Baltimore, MD; La Jolla Institute of Allergy and Immunology, La Jolla, CA; Medical Center Punta Paitilla, Panama, Republic of Panama; National Institutes of Health, NICDR, Bethesda, MD; National University of Kyushu, Fukuoka, Japan; National University of Singapore; Tulane University, New Orleans, LA; University of Freiburg Medical School, Germany; University of Miami, Miller School of Medicine, Miami, FL; University of Oslo, Norway; University of Reims Medical School, France; University of Shangai, School of Veterinary Medicine, Shangai; University of Tampa Medical School, Tampa, FL; University of Tampere, Finland; University of Texas Medical Branch, Galveston, TX; University of Tokyo - Italian Medical Schools: Universities of Bologna, Cagliari, Catania, Firenze, Genova, L’Aquila, San Raffaele University, Padova, Pavia, Perugia, Pisa, Rome, Sassari, Siena, Verona. Italian Research Centers: The National Council for Research (CNR, Rome); Diasorin Research Center, Milan; Novartis Vaccines Center, Siena.

**BIBLIOMETRIC DATA**

**Papers in peer-reviewed Journals: 225 ⧫ Hirsch-index: 58 ⧫ H-index last 5 years: 27**

Over 400 presentations at National and International Conferences

**PUBLICATIONS LAST 10 YEARS** (full list at ORCID, <http://orcid.org/0000-0003-3008-2126>)

1. Laiho JE, Oikarinen S, Morfopoulou S, Oikarinen M, Renner A, Depledge D, Ross MC, Gerling IC, Breuer J, Petrosino JF, Plagnol V, Pugliese A, Toniolo A, Lloyd RE, Hyöty H; JDRF nPOD-Virus Group. Detection of enterovirus RNA in pancreas and lymphoid tissues of organ donors with type 1 diabetes. medRxiv [Preprint]. 2024 Sep 13:2024.09.11.24313112. doi: 10.1101/2024.09.11.24313112.
2. Panagides V, Cuervo G, Llopis J, Abdel-Wahab M, Mangner N, Habib G, Regueiro A, Mestres CA, Tornos P, Durand E, Selton-Suty C, Ihlemann N, Bruun N, Urena M, Cecchi E, Thiele H, Durante-Mangoni E, Pellegrini C, Eltchaninoff H, Athan E, Søndergaard L, Linke A, Tattevin P, Del Val D, Quintana E, Chu V, Rodés-Cabau J, Miro JM; TAVI Infective Endocarditis International Registry and ICE Investigators. Infective Endocarditis After Transcatheter Versus Surgical Aortic Valve Replacement. Clin Infect Dis. 2024 Jan 25;78(1):179-187. doi:10.1093/cid/ciad464. PMID: 37552784.
3. Poma AM, Basolo A, Alì G, Bonuccelli D, Di Stefano I, Conti M, Mazzetti P, Sparavelli R, Vignali P, Macerola E, Pistello M, Santini F, Basolo F, Toniolo A. SARS-CoV-2 spread to endocrine organs is associated with obesity: an autopsy study of COVID-19 cases. Endocrine. 2024 Jan;83(1):110-117. doi:10.1007/s12020-023-03518-0.
4. Toniolo A. Islet autoimmunity and type 1 diabetes associated with enterovirus infections. Lancet Diabetes Endocrinol. 2023 Jun 27:S2213-8587(23)00133-X. doi: 10.1016/S2213-8587(23)00133-X.
5. Poma AM, Bonuccelli D, Macerola E, Niballi S, Basolo A, Santini F, Basolo F, Toniolo A. Transcriptional changes in multiple endocrine organs from lethal cases of COVID-19. J Mol Med (Berl). 2023 May 29. doi: 10.1007/s00109-023-02334-3.
6. Ambrosioni J, Hernández-Meneses M, Durante-Mangoni E, Tattevin P, Olaison L, Freiberger T, Hurley J, Hannan MM, Chu V, Hoen B, Moreno A, Cuervo G, Llopis J, Miró JM; International Collaboration for Endocarditis (ICE) Investigators. Epidemiological Changes and Improvement in Outcomes of Infective Endocarditis in Europe in the Twenty-First Century: An International Collaboration on Endocarditis (ICE) Prospective Cohort Study (2000-2012). Infect Dis Ther. 2023 Mar 15. doi: 10.1007/s40121-023-00763-8.
7. Basolo A, Poma AM, Macerola E, Bonuccelli D, Proietti A, Salvetti A, Vignali P, Torregrossa L, Evangelisti L, Sparavelli R, Giannini R, Ugolini C, Basolo F, Santini F, Toniolo A. Autopsy study of testicles in Covid-19: upregulation of immune-related genes and downregulation of testis-specific genes. J Clin Endocrinol Metab. 2022 Oct 19:dgac608. doi: 10.1210/clinem/dgac608.
8. Krogvold L, Genoni A, Puggioni A, Campani D, Richardson SJ, Flaxman CS, Edwin B, Buanes T, Dahl-Jørgensen K, Toniolo A. Live enteroviruses, but not other viruses, detected in human pancreas at the onset of type 1 diabetes in the DiViD study. Diabetologia. 2022 Dec;65(12):2108-2120. doi: 10.1007/s00125-022-05779-2.
9. Weider T, Genoni A, Broccolo F, Paulsen TH, Dahl-Jørgensen K, Toniolo A, Hammerstad SS. High Prevalence of Common Human Viruses in Thyroid Tissue. Front Endocrinol (Lausanne). 2022 Jul 14;13:938633. doi: 10.3389/fendo.2022.938633.
10. Poma AM, Proietti A, Macerola E, Bonuccelli D, Conti M, Salvetti A, Dolo V, Chillà A, Basolo A, Santini F, Toniolo A, Basolo F. Suppression of Pituitary Hormone Genes in Subjects Who Died From COVID-19 Independently of Virus Detection in the Gland. J Clin Endocrinol Metab. 2022 Jul 14;107(8):2243-2253. doi: 10.1210/clinem/dgac312.
11. Basolo A, Poma AM, Bonuccelli D, Proietti A, Macerola E, Ugolini C, Torregrossa L, Giannini R, Vignali P, Basolo F, Santini F, Toniolo A. Adipose tissue in COVID-19: detection of SARS-CoV-2 in adipocytes and activation of the interferon-alpha response. J Endocrinol Invest. 2022 May;45(5):1021-1029. doi: 10.1007/s40618-022-01742-5.
12. Battistoni I, Francioni M, Morici N, Rubboli A, Podda GM, Pappalardo A, Abdelrahim MEA, Elgendy MO, Elgendy SO, Khalaf AM, Hamied AAM, Garcés HH, Abdelhamid OES, Tawfik KAM, Zeduri A, Bassi G, Pongetti G, Angelini L, Giovinazzo S, Garcia PM, Serino FS, Polistina GE, Fiorentino G, Barbati G, Toniolo A, Fabbrizioli A, Belenguer-Muncharaz A, Porto I, Ocak S, Minuz P, Bernal F, Hermosilla I, Borovac JA. Pre- and in-hospital anticoagulation therapy in coronavirus disease 2019 patients: a propensity-matched analysis of in- hospital outcomes. J Cardiovasc Med (Hagerstown). 2022 Apr 1;23(4):264-271. doi: 10.2459/JCM.0000000000001284.
13. Poma AM, Bonuccelli D, Giannini R, Macerola E, Vignali P, Ugolini C, Torregrossa L, Proietti A, Pistello M, Basolo A, Santini F, Toniolo A, Basolo F. COVID-19 autopsy cases: detection of virus in endocrine tissues. J Endocrinol Invest. 2022 Jan;45(1):209-214. doi: 10.1007/s40618-021-01628-y.
14. Poma AM, Basolo A, Bonuccelli D, Proietti A, Macerola E, Ugolini C, Torregrossa L, Alì G, Giannini R, Vignali P, Santini F, Toniolo A, Basolo F. Activation of Type I and Type II Interferon Signaling in SARS-CoV-2-Positive Thyroid Tissue of Patients Dying from COVID-19. Thyroid. 2021 Dec;31(12):1766-1775. doi: 10.1089/thy.2021.0345.
15. Sobur MA, Islam MS, Haque ZF, Orubu ESF, Toniolo A, Choudhury MA, Rahman MT. Higher seasonal temperature enhances the occurrence of methicillin resistance of Staphylococcus aureus in house flies (Musca domestica) under hospital and environmental settings. Folia Microbiol (Praha). 2022 Feb;67(1):109-119. doi: 10.1007/s12223-021-00922-9.
16. Poma AM, Hammerstad SS, Genoni A, Basolo A, Dahl-Jorgensen K, Toniolo A. Immune Transcriptome of Cells Infected with Enterovirus Strains Obtained from Cases of Autoimmune Thyroid Disease. Microorganisms. 2021 Apr 19;9(4):876. doi:10.3390/microorganisms9040876.
17. Pericàs JM, Llopis J, Jiménez-Exposito MJ, Kourany WM, Almirante B, Carosi G, Durante-Mangoni E, Fortes CQ, Giannitsioti E, Lerakis S, Montagna-Mella R, Ambrosioni J, Tan RS, Mestres CA, Wray D, Pachirat O, Moreno A, Chu VH, de Lazzari E, Fowler VG Jr, Toniolo A, Miró JM; ICE Investigators. Infective Endocarditis in Patients on Chronic Hemodialysis. J Am Coll Cardiol. 2021 Apr 6;77(13):1629-1640. doi: 10.1016/j.jacc.2021.02.014.
18. Giannella M, Freire M, Rinaldi M, Abdala E, Rubin A, Mularoni A, Gruttadauria S, Grossi P, Shbaklo N, Tandoi F, Ferrarese A, Burra P, Fernandes R, Aranha Camargo LF, Asensio A, Alagna L, Bandera A, Simkins J, Abbo L, Halpern M, Santana Girao E, Valerio M, Muñoz P, Fernandez Yunquera A, Statlender L, Yahav D, Franceschini E, Graziano E, Morelli MC, Cescon M, Viale P, Lewis R; CRECOOLT study group. Development of a Risk Prediction Model for Carbapenem-resistant Enterobacteriaceae Infection After Liver Transplantation: A Multinational Cohort Study. Clin Infect Dis. 2021 Aug 16;73(4):e955-e966. doi: 10.1093/cid/ciab109. PMID: 33564840.
19. Poma AM, Genoni A, Broccolo F, Denaro M, Pugliese A, Basolo F, Toniolo A. Immune Transcriptome of Cells Infected with Enterovirus Strains Obtained from Cases of Type 1 Diabetes. Microorganisms. 2020 Jul 12;8(7):E1031. doi:10.3390/microorganisms8071031.
20. Oikarinen M, Bertolet L, Toniolo A, Oikarinen S, Laiho JE, Pugliese A, Lloyd RE, Hyöty H, The nPOD-V Study Group. Differential Detection of Encapsidated versus Unencapsidated Enterovirus RNA in Samples Containing Pancreatic Enzymes-Relevance for Diabetes Studies. Viruses. 2020 Jul 11;12(7):E747. doi:10.3390/v12070747.
21. Sobur A, Islam S, Haque E, Rahman T, Islam T, Toniolo A, Rahman T. Influence of temperature and relative humidity on the occurrence of COVID-19 pandemic: An observational study in 57 countries. MedRxiv 2020-05 DOI: 10.1101/2020.05.03.20089342.
22. Islam MS, Sobur MA, Akter M, Nazir KHMNH, Toniolo A, Rahman MT. Coronavirus Disease 2019 (COVID-19) pandemic, lessons to be learned! J Adv Vet Anim Res. 2020 Apr 18;7(2):260-280. doi: 10.5455/javar.2020.g418.
23. Rahman MT, Sobur MA, Islam MS, Toniolo A, Nazir KHMNH. Is the COVID-19 pandemic masking dengue epidemic in Bangladesh? J Adv Vet Anim Res. 2020 Apr 15;7(2):218-219. doi: 10.5455/javar.2020.g412.
24. Lepuschitz S, Ruppitsch W, Pekard-Amenitsch S, Forsythe SJ, Cormican M, Mach RL, Piérard D, Allerberger F; Toniolo A, EUCRONI Study Group. Multicenter Study of Cronobacter sakazakii Infections in Humans, Europe, 2017. Emerg Infect Dis. 2019 Mar;25(3):515-522. doi: 10.3201/eid2503.181652.
25. Toniolo A, Cassani G, Puggioni A, Rossi A, Colombo A, Onodera T, Ferrannini E. The diabetes pandemic and associated infections: suggestions for clinical microbiology. Rev Med Microbiol. 2019;30:1-17. doi: 10.1097/MRM.0000000000000155.
26. Broccolo F, Drago F, Ciccarese G, Genoni A, Porro A, Parodi A, Chumakov K, Toniolo A. Possible long-term sequelae in hand, foot, and mouth disease caused by Coxsackievirus A6. J Am Acad Dermatol. 2019;80:804-806. doi: 10.1016/j.jaad.2018.08.034.
27. Broccolo F, Drago F, Ciccarese G, Genoni A, Puggioni A, Rosa GM, Parodi A, Manukyan H, Laassri M, Chumakov K, Toniolo A. Severe atypical hand-foot-and-mouth disease in adults due to coxsackievirus A6: Clinical presentation and phylogenesis of CV-A6 strains. J Clin Virol. 2019;110:1-6. doi: 10.1016/j.jcv.2018.11.003.
28. Broccolo F, Ciccarese G, Rossi A, Anselmi L, Drago F, Toniolo A. Human papillomavirus (HPV) and Epstein-Barr virus (EBV) in keratinizing versus non- keratinizing squamous cell carcinoma of the oropharynx. Infect Agent Cancer. 2018;13:32-36. doi: 10.1186/s13027-018-0205-6.
29. Oikarinen M, Laiho JE, Oikarinen S, Richardson SJ, Kusmartseva I, Campbell-Thompson M, Morgan NM, Pugliese A, Tauriainen S, Toniolo A, Hyoty H. Detection of enterovirus protein and RNA in multiple tissues from nPOD organ donors with type 1 diabetes. bioRxiv 459347; 2018;doi: <https://doi.org/10.1101/459347>.
30. Federico G, Genoni A, Puggioni A, Saba A, Gallo D, Randazzo E, Salvatoni A, Toniolo A. Vitamin D status, enterovirus infection, and type 1 diabetes in Italian children/adolescents. Pediatr Diabetes. 2018, 22. doi: 10.1111/pedi.12673.
31. Piantanida E, Gallo D, Veronesi G, Dozio E, Trotti E, Lai A, Ippolito S, Sabatino J, Tanda ML, Toniolo A, Ferrario M, Bartalena L. Cardiometabolic healthy and unhealthy obesity: does vitamin D play a role? Endocr Connect. 2017;6:943-951. doi: 10.1530/EC-17-0304.
32. Toniolo A, Leslie RD. Diabetes, the TYK2 Gene and the Interferon Response: In Search for Environmental Causes. EBioMedicine 2017; <http://dx.doi.org/10.1016/j.ebiom.2017.09.003>.
33. Genoni A, Canducci F, Rossi A, Broccolo F, Chumakov K, Bono G, Salerno-Uriarte J, Salvatoni A, Pugliese A, Toniolo A. Revealing enterovirus infection in chronic human disorders: An integrated diagnostic approach. Sci Rep. 2017;7(1):5013. doi: 10.1038/s41598-017-04993-y.
34. Gallo D, Piantanida E, Veronesi G, Lai A, Sassi L, Lombardi V, Masiello E, Premoli P, Bianconi E, Cusini C, Rosetti S, Tanda ML, Toniolo A, Ferrario M, Bartalena L. Physical performance in newly diagnosed hypothyroidism: a pilot study. J Endocrinol Invest. 2017. doi: 10.1007/s40618-017-0661-7.
35. Drago F, Ciccarese G, Gasparini G, Cogorno L, Javor S, Toniolo A, Broccolo F. Contemporary infectious exanthems: an update. Future Microbiol. 2016 Nov 14. PubMed PMID: 27838923.
36. Maccari G, Genoni AP, Sansonno S, Toniolo A. Properties of two enterovirus antibodies that are utilized in diabetes research. Sci. Rep. 2016; 6, 24757; doi: 10.1038/srep24757.
37. Osculati A, Visonà SD, Colombo A, Basso P, Andrello L, Toniolo A. Neisseria meningitidis can survive in corpses for at least eleven days. Front Cell Infect Microbiol. 2016;6:74.
38. Toniolo A. Long-term poliovirus infection and its possible impact on Post-Polio Syndrome. J Rehab Med. 2016; 48:740 (KL19).
39. Park LP, Chu VH, Peterson G, Skoutelis A, Lejko-Zupa T, Bouza E, Tattevin P, Habib G, Tan R, Gonzalez J, Altclas J, Edathodu J, Fortes CQ, Siciliano RF, Pachirat O, Kanj S, Toniolo A, Wang A; International Collaboration on Endocarditis (ICE) Investigators. Validated risk score for predicting 6-month mortality in infective endocarditis. J Am Heart Assoc. 2016;5. pii: e003016. doi:10.1161/JAHA.115.003016.
40. Nagafuchi S, Toniolo A. Viral diabetes: virus diabetogenicity and host susceptibility. Immunoendocrinology 2015; 2: e1026. doi: 10.14800/ie.1026.
41. Broccolo F, Esposito S, Falcone V, Toniolo A. Human Bocaviruses: possible etiologic role in respiratory infections. J Clin Virol. 2015;72:75-81.
42. Onori R, Gaiarsa S, Comandatore F, Pongolini S, Brisse S, Colombo A, Cassani G, Marone P, Grossi P, Minoja G, Bandi C, Sassera D, Toniolo A. Tracking nosocomial Klebsiella pneumoniae infections and outbreaks by whole genome analysis: small-scale Italian scenario within a single hospital. J Clin Microbiol. 2015;53:2861-8.
43. Baj A, Colombo M, Headley JL, McFarlane JR, Liethof MA, Toniolo A. Post-poliomyelitis syndrome as a possible viral disease. Int J Infect Dis. 2015;35:107-116.
44. Drago F, Ciccarese G, Broccolo F, Toniolo A, Javor S, Parodi A. Localized exanthem due to echovirus 9. J Med Virol. 2015;87:1447-8. doi: 10.1002/jmv.24204. PMID: 25919440.
45. Arnold CJ, Johnson M, Bayer AS, Bradley S, Giannitsioti E, Miró JM, Tornos P, Tattevin P, Strahilevitz J, Spelman D, Athan E, Nacinovich F, Fortes CQ, Lamas C, Barsic B, Fernández-Hidalgo N, Muñoz P, Chu VH, Toniolo A, ICE Prospective Investigators. Candida infective endocarditis: an observational cohort study with a focus on therapy. Antimicrob Agents Chemother. 2015;59:2365-73. doi: 10.1128/AAC.04867-14.
46. Chirouze C, Alla F, Fowler VG Jr, Sexton DJ, Corey GR, Chu VH, Wang A, Erpelding ML, Durante-Mangoni E, Fernández-Hidalgo N, Giannitsioti E, Hannan MM, Lejko-Zupanc T, Miró JM, Muñoz P, Murdoch DR, Tattevin P, Tribouilloy C, Hoen B, Toniolo A; ICE Prospective Investigators. Impact of early valve surgery on outcome of Staphylococcus aureus prosthetic valve infective endocarditis: analysis in the International Collaboration of Endocarditis-Prospective Cohort Study. Clin Infect Dis. 2015;60:741-9. doi: 10.1093/cid/ciu871.
47. Ceresola ER, Nozza S, Sampaolo M, Pignataro AR, Saita D, Ferrarese R, Ripa M, Deng W, Mullins JI, Boeri E, Tambussi G, Toniolo A, Lazzarin A, Clementi M, Canducci F. Performance of commonly used genotypic assays and comparison with phenotypic assays of HIV-1 coreceptor tropism in acutely HIV-1-infected patients. J Antimicrob Chemother. 2015; 70:1391-5.
48. Delahaye F, Chu VH, Altclas J, Barsic B, Delahaye A, Freiberger T, Gordon DL, Hannan MM, Hoen B, Kanj SS, Lejko-Zupanc T, Mestres CA, Pachirat O, Pappas P, Lamas C, Selton-Suty C, Tan R, Tattevin P, Wang A, Toniolo A; International Collaboration on Endocarditis Prospective Cohort Study (ICE-PCS) Investigators. One-year outcome following biological or mechanical valve replacement for infective endocarditis. Int J Cardiol. 2015;178:117-23. doi: 10.1016/j.ijcard.2014.10.125.
49. Broccolo F, Toniolo A. Detection of human herpesviruses (HHVs) DNA in blood samples: A true marker of Fever of Unknown Origin (FUO)? J Clin Virol. 2014; 61:617-618.
50. Richardson SJ, Rodriguez-Calvo T, Oikarinen M, Laiho JE, Kusmartseva I, Campbell-Hompson M, Baj A, Toniolo A, von Herrath M, Hyoty H, Morgan NG. 2014. Enteroviral infection in human type 1 diabetes: correlative evidence from multiple tissue sources in nPOD samples. Diabetologia 57, S125-S126.
51. Costantini C, Clerici AM, Cardani R, Baj A, Bono G, Toniolo A, Salvatoni A. Peripheral nerve conduction in children and adolescents at the clinical onset of type 1 diabetes and at five of more years post-diagnosis. Ped Diabetes 2014; 15 (S19):82.
52. Chirouze C, Alla F, Fowler VG Jr, Sexton DJ, Corey GR, Chu V, Wang A, Erpelding ML, Durante-Mangoni E, Fernández-Hidalgo N, Giannitsioti E, Hannan MM, Lejko-Zupanc T, Miró JM, Muñoz P, Murdoch DR, Tattevin P, Tribouilloy C, Hoen B; on behalf of the ICE Prospective Investigators. Impact of early valve surgery on outcome of Staphylococcus aureus prosthetic valve infective endocarditis - Analysis in the International Collaboration of Endocarditis - Prospective Cohort Study. Clin Infect Dis. 2014. pii: ciu871. PMID: 25389255.
53. Principe L, Piazza A, Giani T, Bracco S, Caltagirone MS, Arena F, Nucleo E, Tammaro F, Rossolini GM, Pagani L, Luzzaro F; AMCLI-CRAb Survey Participants. 2014. Epidemic diffusion of OXA-23-producing Acinetobacter baumannii isolates in Italy: results of the first cross-sectional countrywide survey. J Clin Microbiol. 52:3004-10. PubMed PMID: 24920776.
54. Baj A, Colombo M, Maccari G, Nauti A, Bono G, Roivainen M, Toniolo A. 2014. Persistence of poliovirus genome in polio survivors diagnosed with post-polio syndrome. J Rehabil Med 46:578.
55. Ugolini C, Elisei R, Proietti A, Pelliccioni S, Lupi C, Borrelli N, Viola D, Leocata P, Vitti P, Miccoli P, Toniolo A, Basolo F. FoxP3 expression in papillary thyroid carcinoma: a possible resistance biomarker to 131-iodine treatment. Thyroid. 2013 Aug 5. PMID: 23915122.
56. Colombo A, Maccari G, Congiu T, Basso P, Baj A, Toniolo A. Colonization of a central venous catheter by the hyaline fungus Fusarium solani Species Complex: a case report and SEM imaging. Case Reports in Medicine, 2013 doi.org/10.1155/2013/618358.
57. Vulcano E, Murena L, Falvo DA, Baj A, Toniolo A, Cherubino P. Bone marrow aspirate and bone allograft to treat acetabular bone defects in revision total hip arthroplasty: preliminary report. Eur Rev Med Pharmacol Sci. 2013. 17:2240-9. PMID: 23893192.
58. Salvatoni A, Baj A, Bianchi G, Federico G, Colombo M, Toniolo A. Intrafamilial spread of enterovirus infections at the clinical onset of type 1 diabetes. Pediatr Diabetes. 2013. 14: 407-416. doi: 10.1111/pedi.12056.
59. Chirouze C, Athan E, Alla F, Chu VH, Ralph Corey G, Selton-Suty C, Erpelding ML, Miro JM, Olaison L, Hoen B; International Collaboration on Endocarditis Study Group. Enterococcal endocarditis in the beginning of the 21st century: analysis from the International Collaboration on Endocarditis-Prospective Cohort Study. 2013. Clin Microbiol Infect. 19:1140-7. doi: 10.1111/1469-0691.12166.
60. Chambers ST, Murdoch D, Morris A, Holland D, Pappas P, Almela M, Fernández-Hidalgo N, Almirante B, Bouza E, Forno D, del Rio A, Hannan MM, Harkness J, Kanafani ZA, Lalani T, Lang S, Raymond N, Read K, Vinogradova T, Woods CW, Wray D, Corey GR, Chu VH; International Collaboration on Endocarditis Prospective Cohort Study Investigators. 2013. HACEK infective endocarditis: characteristics and outcomes from a large, multi-national cohort. PLoS One 8(5):e63181. doi: 10.1371/journal.pone.0063181.
61. Barsic B, Dickerman S, Krajinovic V, Pappas P, Altclas J, Carosi G, Casabé JH, Chu VH, Delahaye F, Edathodu J, Fortes CQ, Olaison L, Pangercic A, Patel M, Rudez I, Tamin SS, Vincelj J, Bayer AS, Wang A; International Collaboration on Endocarditis-Prospective Cohort Study Investigators. 2013. Influence of the timing of cardiac surgery on the outcome of patients with infective endocarditis and stroke. Clin Infect Dis. 56:209-17.
62. Lalani T, Chu VH, Park LP, Cecchi E, Corey GR, Durante-Mangoni E, Fowler VG Jr, Gordon D, Grossi P, Hannan M, Hoen B, Muñoz P, Rizk H, Kanj SS, Selton-Suty C, Sexton DJ, Spelman D, Ravasio V, Tripodi MF, Wang A; International Collaboration on Endocarditis-Prospective Cohort Study Investigators. 2013. In-hospital and 1-year mortality in patients undergoing early surgery for prosthetic valve endocarditis. JAMA Intern Med. 173:1495-504. doi:10.1001/jamainternmed.2013.8203.
63. Vulcano E, Murena L, Cherubino P, Falvo DA, Rossi A, Baj A, Toniolo A. Treatment of severe post-traumatic bone defects with autologous stem cells loaded on allogeneic scaffolds. Surg Technol Int. 2012 Dec;22:291-301.
64. Toniolo A , Salvatoni A, Federico G, Diaz-Horta O, Maccari G, Baj A. Enteroviruses in blood. In: "Diabetes and Viruses". K Taylor, H Hyoty, A Toniolo, A Zuckerman (Eds.), Springer, New York, 2013; pp. 143-156. - http://dx.doi.org/10.1007/978-1-4614-4051-2. ISBN 978-1-4614-4050-5 (print book), 978-1-4614-4051-2 (ebook).
65. Cabrera-Rode E, Díaz-Horta O, Toniolo A, Sarmiento L. Type 1 diabetes in the tropics: a link with enterovirus infections. In: "Diabetes and Viruses" H Hyoty, K Taylor, A Toniolo, A Zuckerman (Eds.), Springer, New York, 2012; pp. 195-206. ISBN 978-1-4614-4050-5 (print book), 978-1-4614-4051-2 (ebook).
66. Musolino G, Accolla RS, Tedeschi A, Toniolo A, Colombo M, Baj A, Bianchi G, Salvatoni A. Enterovirus infection and low Treg function: two possible biomarkers of progression to autoimmune T1D. Ped Diabetes, 2012; 13:S71.
67. Toniolo A, Colombo M, Bianchi G, Federico G, Salvatoni A, Baj A. Intrafamilial spread of enterovirus infections at the time of clinical onset of type 1 diabetes. Ped Diabetes, 2012; 13:S17.
68. Toniolo A, Colombo M, Bianchi G, Salvatoni A, Federico G, Baj A. Enterovirus genome and infectivity in peripheral blood leukocytes of children at the clinical onset of type 1 diabetes. Diabetologia, 2012; 55:S43.
69. Diaz-Horta O, Baj A, Maccari G, Salvatoni A, Toniolo A. Enteroviruses and causality of type 1 diabetes: how close are we? Pediatr Diabetes. 2012; 13:92-99.
70. Athan E, Chu VH, Tattevin P, Selton-Suty C, Jones P, Naber C, Miró JM, Ninot S, Fernández-Hidalgo N, Durante-Mangoni E, Spelman D, Hoen B, Lejko-Zupanc T, Cecchi E, Thuny F, Hannan MM, Pappas P, Henry M, Fowler VG Jr, Crowley AL, WangA; ICE-PCS Investigators. 2012. Clinical characteristics and outcome of infective endocarditis involving implantable cardiac devices. JAMA 307:1727-35.
71. Uraki R, Sakudo A, Ano Y, Kono J, Yukawa M, Zanusso G, Toniolo A, Onodera T. Penetration of infectious prion protein in the intestine during the lactation period. Mini Rev Org Chem, 2012; 9:27-30.

**REFERENCES**

• **Abner Louis Notkins, MD,** Director, Laboratory of Experimental Medicine, NIDCR, National Institutes of Health - Bg. 30, Rm. 106, MSC 4322 - 30, Convent Dr., MSC 4322 - Bethesda, MD 20892-4322 - phone +1-301-496-4535, [notkins@yoda.nidcr.nih.gov](mailto:notkins@yoda.nidcr.nih.gov)

• **Robert C. Gallo, MD,** Professor of Virology and Director, Institute of Human Virology, 120 Penn St. 106, Baltimore, MD 21201 – phone +1-410-706.8614, [gallo@umbi.umd.edu](mailto:gallo@umbi.umd.edu)

**• Takashi Onodera, DVM, PhD,** Professor and Director, Department of Molecular Immunology - University of Tokyo - 1-1-1, Yayoi, Bunkyo-ku - Tokyo 113, Japan – phone +81-3-5841-5196, [aonoder@mail.ecc.u-tokyo.ac.jp](mailto:aonoder@mail.ecc.u-tokyo.ac.jp)

**• Heikki Hyoty, MD, PhD,** Head, Department of Virology, University of Tampere and Tampere University Hospital, Biokatu 10, 33520 Tampere, Finland. Tel. +358-33551.8460 [heikki.hyoty@uta.fi](mailto:heikki.hyoty@uta.fi)

**• Francesco Bistoni, MD, PhD,** Professor of Medical Microbiology and President, University of Perugia, Piazza Università 1 – 06123 Perugia, Italy – phone +39-075-585.2015, [bistoni@unipg.it](mailto:bistoni@unipg.it)

**• Roberto Accolla, MD, PhD,** Professor of Pathology and Immunology - University of Insubria Medical School (Viale O. Rossi 9, 21100 Varese, Italy) phone +39-348-303.4698, +39-0332-217.600, [roberto.accolla@uninsubria.it](mailto:roberto.accolla@uninsubria.it)

**• Paolo Cherubino, MD,** Professor of Orthopedic Surgery – Director, Medical Center, University of Insubria and Ospedale di Circolo e Fondazione Macchi (Viale Borri 57, 21100 Varese, Italy) phone +39-339-822.9224, +39-0332-278.826, [paolo.cherubino@uninsubria.it](mailto:paolo.cherubino@uninsubria.it)

Antonio Toniolo, MD, FAMH October 03, 2024

**LIST of PhD trainees; primary supervisor for their PhD theses (1980 to 2018):**

1. 1981-83 Donatella Matteucci, PhD; Retired Associate Professor of Virology, Univ. of Pisa Medical School, Italy
2. 1981-1983 Gennaro De Libero, MD, PhD; currently Associate Professor of Immunology, Univ. Hospital, Basel, CH
3. 1981-84 Romano Mattei, MD, PhD; Retired Consultant Microbiologist, Ospedale di Lucca, Italy
4. 1981-84 Pier Giulio Conaldi, MD, PhD; currently Consultant Microbiologist, ISMETT, Palermo, Italy & Associate Professor, Univ. Pittsburg, PA
5. 1982-1985 Maria Pia Pistillo, PhD; Retired Senior Investigator, National Institute for Research on Cancer, Genova, Italy
6. 1983-1986 Gabriella Fontanini, MD, PhD; currently Full Professor of Pathology, Univ. of Pisa Medical School, Italy
7. 1985-89 Pier Luigi Fiori, MD, PhD; currently Full Professor of Microbiology, Univ. of Sassari, Italy
8. 1985-89 Elisabetta Blasi, PhD; currently Full Professor of Microbiology, Univ. of Modena Medical School, Italy
9. 1986-90 Caterina Serra, MS, PhD; currently Associate Professor of Microbiology, Univ. of Sassari, Italy
10. 1987-91 Sergio Uzzau, MD, PhD; currently Full Professor of Microbiology, Univ. of Sassari Medical School, Italy
11. 1990-94 Valeria Falcone, MS, PhD; currently Assistant Professor of Virology, Univ. of Freiburg Medical School, Germany
12. 1994-98 Agostino Rossi, MD, PhD; currently Medical Microbiologist, Ospedale di Circolo e Fondazione Macchi, Varese
13. 1996-99 Luigi Biancone, MD, PhD; currently Full Professor of Nephrology, Univ. of Torino Medical School, Italy
14. 1997-99 Vincenzo Cantaluppi, MD, PhD; currently Associate Professor of Nephrology, Department of Internal Medicine, Univ. of Torino Medical School, Italy
15. 1994-2001 Francesco Luzzaro, MD, PhD; currently Director, Laboratory of Clinical Microbiology, Ospedale A. Manzoni, Lecco, Italy
16. 2000 Takuya Nishimura, DVM, PhD; currently Section Chief, National Institute of Health Sciences, Tokyo, Japan
17. 2000-2004 Camilla Bernasconi, MS, PhD; currently Principal Scientist, European Joint Research Center, Ispra, Italy
18. 2001-2005 Mattia Bonsignori, MD, PhD; previously, Associate Professor of Virology and Immunology, Duke Univ. Medical Center, Durham, NC – now: Principal Investigator, NIAID, NIH, Bethesda, MD - world-class researcher selected for his exceptional research performance, demonstrated by production of multiple highly cited papers that rank in the top 1% by citations for field and year in Web of Science 2018.
19. 2001-05 Andreina Baj, MD, PhD; currently Assistant Professor of Medical Microbiology, Univ. of Insubria Medical School, Varese, Italy
20. 2002-2006 Andrea Endimiani, MD, PhD; currently Associate Professor of Medical Microbiology, Institute for Infectious Diseases, Univ. of Bern, Switzerland
21. 2007-2010 Giuseppe Maccari, MS, PhD; former Associate Scientist, Pirbright Institute, London, UK; currently Principal Investigator, GSK Vaccines, Siena, Italy
22. 2007-2010 Gloria Gaudio, MS, PhD; currently Principal Scientist, Ospedale Regionale di Bellinzona e Valli, Bellinzona, Switzerland
23. 2009-2011 Oscar Diaz-Horta, MS, PhD (†deceased); Associate Scientist, Human Genetics, Miller School of Medicine, Miami, FL, USA
24. 2011 Majed Al-Gelawi, MS, PhD; currently Professor of Biotechnology, Univ. Al Nahrein, Bagdad, Iraq.
25. 2012-2013 – Sudipta Shaheen Shaikh, MS, PhD; currently Principal Scientist, Advinus Therapeutics, Bangalore, India
26. 2011-2013 – Ettore Vulcano, MD, PhD; currently Associated Professor of Orthopedics, Mount Sinai School of Medicine and Univ. Hospital, New York, NY
27. 2011-2015 - Martina Colombo, MS, PhD; currently Diagnostic Manager Oncology, AstraZeneca, Milan, Italy (Excellence Award 2022: “Myriad Study”)
28. 2011-2015 – Etleva Lleshi, MD, PhD; currently Medical Manager, BD-Kiestra, Drachten, NL
29. 2013-2015 – Raffaella Onori, MS, PhD; currently Titulado Superior, Clinical Microbiology, Hospital Clinico Universitario San Carlos, Madrid, Spain
30. 2016-2017 – Silvia Sansonno, MS, PhD; currently Laboratory Scientist, Biomedical Center, Bitonto, Italy
31. 2013-2017 – Filippo Canducci, MD, PhD; currently Senior Medical Director at Roche (Pharma research and early development inflammation, immunity & infectious diseases), Basel, Switzerland
32. 2016-2018 – Anna Puggioni, MD, PhD; currently Clinical Microbiologist, Univ. of Sassari, Italy
33. 2018 – Narastan Mohammadi, MS, PhD, currently Assistant Professor of Microbiology, Univ. of Teheran.