Professor Ilaria Capua, DVM, MS, PhD, *PhD HC*
Member of the European Academy of Sciences
Former member of the Italian Parliament

Ilaria Capua is Senior Fellow of Global Health at Johns Hopkins SAIS Europe, courtesy professor and Emeritus Director of the One Health Center of Excellence at the University of Florida. She graduated as a DVM and holds an MS and a PhD in Virology and Public Health. She has spent most of her career as a virologist leading diagnostic and research laboratories of international status in the field of emerging and zoonotic viruses such as Avian Influenza and has been actively involved in policy issues related to pandemic preparedness since then. She has also been a Member of the Italian Parliament (2013-2016) following Prime Minister Mario Monti's invitation to run for election in 2013. She is a regular columnist for Corriere della Sera and other mainstream Italian press and the author of several books.

In her career as a virologist she dedicated most of her professional life to viral infections of animals that can be transmitted to humans, and that cause poverty and food security issues such as Avian influenza (bird flu), Newcastle disease and Rabies. In 2001 she developed and applied the DIVA vaccination system for Avian Influenza which was successful in eradicating H5 and H7 infections in Italy in the years 2002-2008. In 2006, at the first peak of the H5N1 bird flu panzootic, she provided global leadership by igniting an international debate on developing a system and an infrastructure to allow sharing of influenza virus genetic sequences to improve pandemic preparedness. This led to a paradigm shift in the approach to pandemic preparedness, and real-time sharing of genetic data is considered an essential component of the fight against Ebola, Zika, COVID 19 and other epidemic disease threats. Her leadership resulted in the creation of large data sharing initiatives which now host millions of Covid-19 genetic sequences.

Together with her large research teams she has been coordinator or partner of international research projects funded by the EU Commission and other entities and she has collaborated extensively with international agencies such as WHO, OIE, FAO, EFSA, CDC and ECDC.

She has authored over 240 publications in peer reviewed journals (current H-index 74) and has published scientific books on avian influenza and eleven books for the general public some of which have been translated in several languages. She is active in the field of science communication and in promoting female leadership in the scientific and academic arena.

In 2007 she was among the awardees of the Scientific American 50 Award for leadership in science policy, and in 2008 she was included among Seed's Revolutionary Minds series for her leadership in promoting sharing of genetic sequences for pre-pandemic preparedness. Other international awards include the most prestigious award in veterinary medicine, the Penn Vet World Leadership in Animal Health Award in 2011, and the Gordon Memorial Medal in 2012. In 2014 she was the recipient of the ESCMID Excellence Award for Clinical Microbiology and Infectious diseases. In 2019 she received an honorary PhD from her Alma Mater, University of Perugia and the same year she was awarded the PAIR Prize for Italian-American relations. In 2021 she received the Hypatia Prize for Life Sciences from the European Academy of Sciences, of which she is a member. She received a Honorary degree in Medicine and Surgery from the University of Palermo in 2024.

During her mandate as MP, she served as a member of the Chamber of Deputies of the Italian Parliament. She served as Vice President of the Science, Culture, and Education Commission. During her years in the legislature, she authored parliamentary resolutions and amendments related to infectious diseases, namely antimicrobial resistance, pandemic and epidemic threats and emerging pathogens of plants and animals.

Since 2017 she developed the concept of Circular Health, which is a natural expansion of the One Health concept. Circular Health is an integrated approach promoting the health of humans, animals, plants and the environment which recognizes the need for an expanded convergence effort between disciplines. This conceptual framework encompasses big data exploitation and is based on a multidisciplinary perspective which goes beyond the biomedical dimension of health. Circular health includes societal, cultural, economic and financial, technological and international policies around one goal, which is the advancement of the health as a system. A roadmap to achieving a Circular Health model is that of implementing health related policies through the whole spectrum of the SDGs with the aim of advancing a sustainable health for the future.

She currently teaches a course on Circular Health to Master students in International Relations at JHU SAIS Europe and delivers masterclasses to private companies on Circular health.

November 25

SUMMARY OF CAREER

CURRENT POSITIONS

- Senior Fellow of Global Health, Johns Hopkins University, SAIS Europe (2023-)
- Courtesy Professor, and Emeritus Director of the One Health Center of Excellence for Research and Training, University of Florida, USA

RECENT POSITIONS

- Director of the One Health Center of Excellence for Research and Training, University of Florida, USA
- Member of the Italian Parliament (15 March 2013- 28 September 2016), in the political party founded by former Prime Minister and EU Commissioner, Mario Monti
- Vice- President of the 7th Parliamentary Commission "Culture, Science and Education"
- Director of the Division of Comparative Biomedical Sciences at the Istituto Zooprofilattico Sperimentale delle Venezie (IZSVe), Legnaro (Padova - Italy), currently EU RL for Avian Influenza and Newcastle disease (2000-2016)
- Director of the FAO/OIE and National Reference Laboratory for Avian Influenza and Newcastle Disease, OIE and National Collaborating Center for Diseases at the Human - Animal Interface (2000-2016)

PROFESSIONAL ASSIGNMENTS

- 2023-2025: Member of the Lancet Commission on Global Threats of the 21st Century
- 2024: Honorary degree in medicine and surgery from the University of Palermo
- 2019 Honorary PhD from University of Perugia, Alma Mater
- 2013- 2018: Visiting Professor, University of Glasgow, Center for Virus Research
- 2012 -2018 Member of the International Severe Acute Respiratory and Emerging Infection Consortium (ISARIC) - Advisory Board
- 2012-2015: Member of the EFSA Panel on Animal Health and Animal Welfare
- 2011- 2014: Member of the OFFLU working group on Human Animal interface issues of animal influenzas
- 2009: Senior Policy Advisor to the Director, National Center for Zoonotic Vector-borne and Enteric Diseases, CDC Atlanta, USA
- 2009-2011: Member of the Scientific and Technical Advisory Group to the WHO's Global Influenza Programme
- 2009-2010: Stream leader (Stream 1: Human animal interface and emergence of novel
  pandemic viruses) for WHO's Global Research Agenda on Influenza
- 2009-2010: Welcome Trust Advisory Group on Influenza research
- 2004-2010: Chairman of the Executive Committee of OIE/FAO Network on Animal Influenza (OFFLU)
- 2006-2009: Member of the Advisory Group to the EU Commissioner for Research on the EU 7th Framework Programme in the area "Food, Agriculture and Biotechnology".

- 2007-2010: Member of the Networking Executive Committee of the US Centres of Excellence on Avian Influenza funded by NIH/NIAID
- 2003-2006: Member of the EFSA (European Food Safety Authority) Panel on Animal Health and Animal Welfare.
- 2001-2013: OIE working groups for the revision of the chapters of the OIE Manual of Diagnostic Tests and Vaccines for Terrestrial Animals and member of "Ad hoc" working groups
- 2001/2004: Nominated OIE/FAO Expert for avian influenza and Newcastle Disease.

MAJOR INTERNATIONAL AWARDS AND HONOURS

- 2024 - Honorary degree in Medicine and Surgery from the University of Palermo
- 2020/21 - Hypatia Award for Life Sciences from the European Academy of Sciences
- 2019 - Honorary PhD from University of Perugia, Alma Mater
- 2019 - PAIR award for Italian-American Relations
- 2018 - Gerolamo Cardano International Gold Medal from the University of Pavia in Italy for her outstanding contributions, including research which has had a significant influence on global health
- 2018 - Mela D'Oro (Golden Apple International Award) from Marisa Bellisario Foundation in recognition of career achievements
- 2017 - Schofield Medal – University of Guelph, Canada
- 2014 - Excellence Award in the field of Clinical Microbiology and Infectious Diseases by ESCMID the European Society of Clinical Microbiology and Infectious Diseases (ESCMID)
- 2013 - "Guido Lenghi e Flaviano Magrassi" International award by the Italian Academy of Sciences/ (Accademia dei Lincei)
- 2013 - Inducted into the Hall of Fame of the World Veterinary Poultry Association
- 2012 - Gordon Memorial Medal (UK) for her distinguished contributions to poultry science
- 2012 - Order of Merit of the Italian Republic (Grande Ufficiale della Repubblica Italiana)
- 2011 - Penn Vet World Leadership in Animal Health Award from the University of Pennsylvania (USA), the most prestigious award in veterinary medicine
- 2008 – "Revolutionary Mind" by Seed magazine for his leadership role in sharing information internationally
- 2008 - Charnock Bradeley Lecture, University of Edinburgh
- 2007 - Scientific American 50, awarded annually to the world's top 50 researchers for leadership in science policy
- 2006 - PROMED 2006 "Reporting on the Internet"
- 2005 - Career Achievement Award of "Houghton Trust" (UK)

GLOBAL INITIATIVES

- 2001-2008: development of a DIVA vaccination system for avian influenza which eradicated subsequent infections caused by viruses of the H5 and H7 subtype

- 2006: ignited an international debate on transparency and sharing of genetic information on panzootic H5N1 strains, across disciplines. Her advocacy of increased openness was endorsed by OIE, FAO and WHO, and resulted in resolutions towards a greater transparency with consequent prospects for improved public and animal health. The sharing of avian influenza virus sequences to allow a better understanding of animal and human influenza infections has now become a core part of the global influenza preparedness strategy.
  This initiative was reported by the international non-scientific press (The Wall Street Journal, The New York Times, Washington Post) and obtained significant coverage and support by Science and Nature magazines.
- 2004- 2009: Chairman of the Executive Committee of OFFLU Network, and OIE/FAO network in support of countries affected by the Avian influenza virus. The network promotes the exchange and analysis of virus strains responsible for the H5N1 outbreak and represents a link between the veterinary community and the WHO

EDUCATION

- PhD: University of Padova, Italy 2007. "Public Health, Veterinary Hygiene and Hygiene of Animal production - Avian Influenza: review on epidemiology and aspects of pathogenesis and control"
- PhD: University of Pisa, Italy 1991. "Animal health and hygiene of animal breeding and production"
- DVM: University of Perugia, Italy 1989, Graduation with honours (110/110 cum laude)

MAIN RESEARCH PROJECTS AND ACTIVITIES

- Member of the Avisory Board REGROUP EU (Horizon Project)
- Member of the Advisory Board Durable (Horizon EU project)
- ZikAction (H2020) consortiun (Partner)
- Coordination of EFSA FLURISK project (2012-2013)
- Management of EU FP7 PREDEMICS (2011-2016) project as partner
- Management of EU FP6 funded projects FLUAID and FLUTRAIN (as coordinator)
- Participation (as partner) in EU funded projects and Network of Excellence: FLUPATH, FLU-LAB-NET, FLURESIST; FLUBIRD, EPIZONE; RabMedControl; EPIZONE
- International collaborations on the molecular evolution of influenza viruses, development and evaluation of novel intervention strategies for rabies (post-exposure prophylaxis) and influenza (vaccination)
- Development of pan reactive vaccines against influenza infections (national grants)
- Investigation on the occurrence and significance of selected mutations in the HA and PB2 genes of influenza viruses
- Investigations on the metabolic consequences of influenza infection, with particular reference to glucose metabolism and pancreatic function