# Guido Macchiarelli

# *Curriculum Vitae* - November 2024

# FULL PROFESSOR OF HUMAN ANATOMY Surgeon, Cardiology Specialist

# INTERNATIONAL ACADEMIC POSITIONS

• Dean of the Faculty of Medicine UNIZKM, Tirana, Albania (since 2024)

#### INTERNATIONAL SCIENTIFIC POSITIONS

• President of the "International Committee of Symposia of Morphological Sciences" (ICSMS) (since 2016)

# DATABASE (ACCESS NOVEMBER 2024)

IRIS UnivAQ: https://ricerca.univaq.it/simplesearch?location=&query=macchiarelli&rpp=10&sort\_by=dc.date.issued\_dt&order=DESC&submit\_search=Aggiorna SCOPUS: Scopus Author ID: 26643194400 ORCID: https://orcid.org/0000-0002-9182-0586

PubMED: https://pubmed.ncbi.nlm.nih.gov/?term=macchiarelli%2C%20g&sort=date

#### CAREER

- Degree in Medicine and Surgery (with Honors) University of Rome La Sapienza (1983)
- Specialist in Cardiology (with Honors) University of Rome La Sapienza (1987)
- Technical Officer Electronic Microscopy Laboratory, Institute of Normal Human Anatomy, University of Rome La Sapienza (1988-98)
- Contract Professor of Human Anatomy and Physiology and of Anatomy and Physiology of the Nervous System, Regional School for Professional Nurses, Edoardo e Virginia Agnelli, of the Italian Red Cross, Roma (1989- 1997)
- Contract Professor of Anatomy, ISEF dell'Aquila, Cagliari headquarters (1990-1994)
- University Researcher of Human Anatomy, Faculty of Medicine and Surgery, University of Rome La Sapienza (1998-2000).
- Full Professor of Human Anatomy, Faculty of Medicine and Surgery, University of L'Aquila, Extraordinary (2000-2003) and Full (since 2003)

# MAIN ACADEMIC POSITIONS AT THE UNIVERSITY OF L'AQUILA

- Member of the "Academic Senate " (2001-2004)
- Vice-Rector Delegate for Technological Innovation, ICT, E-learning, ECDL (2004-2010)
- Director of the Center for Electron Microscopy (2004-2010)
- Director of the Microscopy Service Center (dal 2010-2016)
- Vice-President of the Council of the Study Program in Medicine and Surgery. (2004-2007)
- Vice Dean of the Faculty of Medicine and Surgery (2007-2011)
- Vice-Rector delegate for Industrial Relations and Technical-Administrative Personnel Problems, (2009-2013)
- Director of the Department of Health Sciences (2011-2012)
- Member of the University Quality Committee (2013-15)
- Vice-Director of the Department of Clinical Medicine, Public Health, Life Sciences and Environment (2015-18)
- Director of the Department of Clinical Medicine, Public Health, Life and Environmental Sciences (2018-2024)
- Member of the Academic Senate (since 2018-2024)
- Member of the University Teaching and Research Commission (since 2018-2024)
- Member of the Joint Health Commissions, University-ASL of Aquila and University-ASL of Teramo (since 2018-2024)

# EDUCATION

#### University

• Study Program in Medicine and Surgery, University of Rome La Sapienza (1977-1983)

# **Post-University**

• School of Specialization in Cardiology, University of Rome La Sapienza (1983-1987)

# Scientific

• Electron Microscopy Laboratory, Institute of Normal Human Anatomy, University of Rome La Sapienza, Prof. Pietro M. Motta (1979-2000)

# Clinic

• Institute of Cardiovascular Diseases, Umberto I Polyclinic, Sapienza University of Rome, Prof. Armando Dagianti (1982-1987).

# International

- Visiting Assistant Professor of Anatomy, Medical College of Ohio, Toledo, USA, Prof. L.J.A. DiDio (1984-85)
- Visiting Investigator, Dept. of Anatomy, University of Okayama, Prof. T. Murakami (1988)
- Visiting Investigator, Dept. of Anatomy, University of Tottori, Yonago, Japan, Prof. K. Tanaka (1988)
- Visiting Investigator, Dept. of Anatomy, University Osaka, Osaka, Japan, Prof. K. H. Fujita (1989)
- Visiting Investigator, Dept. of Anatomy, University of Niigata, Niigata, Japan, Prof. T, Fujita (1989)
- Visiting Professor (1998) Lab. of Animal Reproduction, Faculty of Agriculture, Tohoku University, Sendai, Prof. E. Sato (1998)
- Alumnus of the US Government "International Visiting Leadership Program" (ILVP): Washington, Raleigh, Indianapolis, San Francisco (2009)

# EDUCATIONAL ACTIVITIES

# Main Didactic Positions at the University of Aquila

- Human Anatomy Study Program of Medicine and Surgery
- Epistemology and History of Medicine (Module Bio16) Study Program of Medicine and Surgery
- History of medicine Study Program of Dentistry e Dental Prosthetics
- Clinical Basis for Biomedical Applications Study Program of Mechanical Engineering, major in Biomedical Engineering
- Anatomic Basis for Neuroscience. CLM International Degree in Neuroscience
- Anatomy Study Program in Health Biology and Nutrition
- Anatomy Study Program in Nursing
- Anatomy Study Program Obstetrics
- Anatomy Study Program in Biotechnology
- Fundamentals of Anatomy and Physiology Industrial Engineering, major in Biomedical Engineering
- Clinical Anatomy: Schools of Specialization in Anesthesia and Resuscitation (Deputy Director); Cardiology; General Surgery; Thoracic Surgery; Emergency Medicine; Sports Medicine; Neurosurgery; Orthodontics; Orthopedics; Psychiatry, Oral Surgery.
- Member of the Teaching Staff of the PhD in Molecular and Ultrastructural Imaging
- Member of the Teaching Staff of the PhD in Health Sciences, and Coordinator of the Molecular and Ultrastructural Imaging Curriculum

#### Main didactic positions held at other institutions

# In Italy:

- Anatomy, Neuroanatomy and Physiology Italian Red Cross Nursing School "Edoardo e Virginia Agnelli, Roma, (1989-1997)
- Human Anatomy Higher Institute of Physical Education (ISEF L'Aquila) Cagliari headquarters (1990-1994)
- Human Anatomy Faculty of Medicine and Surgery, University of Rome La Sapienza (1998-2000)
- Clinical Anatomy School of Specialization in Cardiology, University of Rome La Sapienza (1998-2001)
- Anatomy Medical Radiology Techniques, for Imaging and Radiotherapy University of Rome "La Sapienza" Rieti campus (since 2000)

#### Abroad:

- Assistant Professor of Electron Microscopy: Medical College of Ohio, Toledo, OH, USA (AA 1984-85)
- Adjunct Professor of Anatomy, Physiotherapists Faculty of Medicine, LUDES University, Lugano, Switzerland (AA 1997-98)
- Contract Professor of Anatomy, Faculty of Medicine, Our Lady of Good Counsel University, Tirana, Albania, (AA 2007-08; 2012-24): Human Anatomy, Study Program of Medicine and Surgery, Neuroanatomy, Study Program of Physiotherapy
- Dean of the Faculty of Medicine since October 2024

# SCIENTIFIC ACTIVITY

# Publications

Author of more than 490 publications (Source IRIS – UnivAQ 2024) on topics of:

- Electron and optical microscopy studies in organs of the reproductive, urinary, digestive, cardiovascular systems in clinical and experimental conditions
- Biological and structural aspects in Reproductive Biology (Folliculogenesis, Luteogenesis, Oogenesis, Embryogenesis)
- Biological and ultrastructural aspects of the effects of environmental pollutants on the Reproductive System
- Studies on Blood Microcirculation and Angiogenesis in the Ovary
- Ultrastructural aspects of endothelial injury and regeneration under experimental conditions
- Ultrastructural Aspects of Extracellular Matrix and Collagen in the Heart and Intestine
- Ultrastructural alterations in clinical and experimental cardiomyopathies,
- Microscopic anatomy of the liver and bile ducts
- Microscopic and molecular anatomy in clinical conditions of the somatogenetic apparatus
- E-Learning and virtual teaching methodologies in anatomy
- History of Medicine

#### **Congressional Activities**

- Participation More than 150 National and International Congresses and Symposiums; often as "Invited Speaker" or "Session Chairman".
- Organizer of numerous National and International Congresses, Symposia, Advanced Training Courses on topics of Anatomy, Morphology, Reproduction, Angiogenesis, Bio- and Nanotechnologies; Electronic and Atomic Force Microscopy.
- Scientific Secretary of several International Anatomy Congresses
- Organizer and President of the World Congress "XXI International Symposium on Morphological Sciences" (Messina-Taormina, 1910)
- Organizer and Chairman of the meetings of the International Committee of Symposia on Morphological

# Sciences Main national and international public research funds awarded:

- Last Grant:
  - Entity: Ministry of Research (MIUR/PRIN)
  - Title: New perspectives for the exploitation of female reproductive potential in mammals: from
  - the recovery of the untapped natural ovarian reserve to the generation of oocytes and granulosa cells from mesenchymal stem cells (InfinitEGG)
  - ERC Sector: LS9
  - o Grant: PRIN 2020 20209L8BN4\_004
  - Funds: 145.956 Euros assigned to the L'Aquila Unit Responsible Prof. Macchiarelli

#### • Previous Grant Providers:

 PRIN, Higher Institute of Health, INTERLINK, TEMPUS, RIA UNIVAQ e RIA La Sapienza, Squibb, Bristol-Myers-Squibb; RAI (Italian Radio/TV); Mediaset (Radio/TV); SIEMENS

# **Bibliometric indexes:**

- PARAMETRI ASN (2024): Supera tutte le soglie per Associato; Ordinario e Commissario (05/H1; BIO 16)
- H index: Scopus 36; Google Scholar 44.
- Citations: Scopus 3998; Google Scholar 5959.
- ANVUR Bibliometric Evaluation November 2024



# **GUIDO MACCHIARELLI**

Inquadramento				
Struttura Dipartimento di Medicina clinica, sanita pubblica, scienze dei dell'ambiente				
Qualifica	Professori Ordinari			
Area	AREA MIN. 05 - Scienze biologiche			
SSD	Settore BIO/16 - Anatomia Umana			
SC	05/H1 - ANATOMIA UMANA			

Identificativi						
ORCID ID	Publons/Researcher ID	SCOPUS AUTHOR-ID				
0000-0002-9182-0586	N-1771-2016	26643194400				
Copert	ura IRIS ultimi	15 anni				

Presenti in IRIS	Con identificativo WOS	Con identificative SCOPUS	
188	94		

		ASN 2023-2025			
4	Valore	INDICATORE	Soglia	Stato	
ASCI	56	Numero articoli ultimi 5 anni	10	~	
SECONDA FASCIA	1734	Numero citazioni ultimi 10 anni	249	~	
ECON	27	H index ultimi 10 anni	9	~	
S	La simulazione ASN per il ruolo di docente di Seconda Fascia ha esito positivo?				
PRIMA FASCIA	Valore	INDICATORE	Soglia	Stato	
	80	Numero articoli ultimi 10 anni	20	1	
	2182	Numero citazioni ultimi 15 anni	443	~	
	30	H index ultimi 15 anni	12	1	
	La zimulazione ASN per il ruolo di docente di Prime Pazcia ha ezito pozitivo?				
	Valore	INDICATORE	Soglia	Stato	
COMMISSARIO	80	Numero articoli ultimi 10 anni	41	*	
	2182	Numero citazioni ultimi 15 anni	1013	1	
	30	H index ultimi 15 anni	18	1	
-	Le simulazione ASN per il ruolo di Commissario ha esito positivo?				

#### He is a member of the following Scientific Associations

- Italian Society of Anatomy and Histology
- Italian College of Anatomists
- Italian Society of Microscopic Sciences where he held the position of Member of the Board of Directors (S.I.S.M.)
- European Microscopy Society (EMS)
- President "International Committee of Symposia on Morphological Sciences". (ICSMS)
- Member of EXECUTIVE BOARD of International Federation of Associations of Anatomists (IFAA)
- American Association for Anatomy;
- Honorary Member of the Asociación Argentina de Anatomía Clínica
- Scientific Secretary and Co-Founder of the "International Malpighi Academy".
- Medical Academy of L'Aquila

#### Collaborations with International Scientific Journals (past and present)

- "Associate Editor" Zygote
- "Associate Editor" of the Open Anatomy Journal, Animal Science, Open Medicine Journal
- Member of 'Editorial Board of:
- Journal of Reproduction and Development; Archives of Histology and Cytology; Marcello Malpighi Symposium Series; Medical Investigation (Beograd); Reproductive Medicine and Biology; Journal of Morphological Sciences (Sao Paolo); Reproductive Biology and Endocrinology.
- Referee (peer reviewer) per:
- Journal of Electron Microscopy; Journal of Microscopy; Microscopy Research and Techniques; Theriogenology; Reproduction; Reproduction in Domestic Animals; Journal of Histochemistry and Citochemistry; Human Reproduction Update; Prostate; PlosOne; Scientific Reports.

#### Organization of International Congresses

- 8th International Symposium on Morphological Sciences (Roma 1988)
- 1st, 2nd, 4th, 5th, Int. Malpighi Symposia (4 Simposi: Roma 1988, 1995, 1999 and 2003)
- 15th Cong. of Int. Federation of Association of Anatomists (Roma 1999)
- 1st International Congress on Vascular Corrosion Casts AVC 2004 (Salizburg, Austria, 2004)
- 17th Int. Symposium on Morphological Sciences (Beograd 2005)
- 16th International Microscopy Conference, Chairman and Organizer Symposium "SEM in Biomedicine" (Sapporo, Japan, 2006)
- XIX Symposium, ISMS 2007: Budapest, Hungar
- 2nd International Congress on Vascular Corrosion Casts AVC 2007(Salizburg, Austria, 2007)
- 9th Multinational Congress on Microscopy, Chairman and Organizer of the Work Shop "Advanced Microscopy in Teaching" (Graz, Austria, 2009)
- XX International Symposium on Morphological Sciences (Timisoara, Romania, 2008)
- President of the XXI International Symposium on Morphological Sciences, (Messina, Italy, 2010)
- XXII Symposium, ISMS 2012: São Paulo, Brazil Executive Board Meeting
- XXIII Symposium, ISMS 2013: Niigata, Japan Executive Board Meeting
- Symposium: "Recent advances in Biology of Reproduction" Niigata, Japan 2013.
- XXIV Symposium, ISMS 2015: Istanbul, Turkey Executive Board Meeting
- XXV Symposium, ISMS 2017: Xi'an, China Executive Board Meeting
- XXVI Symposium, ISMS 2018: Prague, Czech Republic Executive Board Meeting
- XXVII Symposium, ISMS 2021: Almaty, Kazakhstan Executive Board Meeting
- XXVIII Symposium, ISMS 2023: Cape Town, South Africa Executive Board Meeting

#### Author in Scientific and Educational Books

- 1. Macchiarelli et al. "ANATOMY for bachelor's and master's Degrees" Sorbona (2020)
- 2. Di Orio, Macchiarelli, Gatto "Dentistry yesterday and today" In progress (2020)
- 3. Vitale et al. "Waschke et al. SOBOTTA ANATOMIA UMANA" Translation and Critical Review, Edra, (2020)
- 4. Vercelli et. FUNCTIONAL NEUROANATOMY Idelson Gnocchi, 2020
- 5. Cappello et al "Ellis-Mahadevan" Translation and revision "CLINICAL ANATOMY" Idelson Gnocchi (2019)
- 6. Macchiarelli: "Paulsen et al SOBOTTA Human Anatomy Atlas Internal Organs 24° ed. Edra (2017)

- Di Orio, Ferrini, Macchiarelli "Niccolò Stenone, from Medicine to Geology: The path of a man of science and faith in the 17th century, In progress 2026 - CESARE SERONO AWARD 2016 OF THE ACADEMY OF HISTORY OF HEALTH ART
- 8. Anastasi et al. Human Anatomy Atlas. 3 Volumes, Edi Ermes, Milano 2015. ISBN 978-88-7051-393-6
- 9. Macchiarelli-Montagnani. Anatomy. Sorbona, Napoli, 2014. ISBN 978-88-7947-591-4
- 10. M. Castellucci e G. Macchiarelli; Volume 2, "Internal Organs "in "Sobotta" Atlas of Human Anatomy; XXIII edizione, Elsevier, Milano (2012). ISBN 978-88-214-3265-1
- 11. "Structural Basis of the Ovarian Function" S.A. Nottola and G. Macchiarelli (eds). Wiley; Microscopy Research and Technique; 2006
- Marcello Malpighi Series: Vol. 9. Morphodynamics of Cells and Tissues. A book in memory of Pietro M. Motta. by R. Heyn, F. Barberini, A. Caggiati, G. Familiari, G. Macchiarelli, Nottola S.A., Correr S. 2005. Il Sedicesimo, Firenze. It. J. of Anatomy and Embryology, vol. 110 (suppl. 1, n. 2), 2005.
- 13. Bareggi Dell'Orbo Ferri Gaeta Macchiarelli Montagnani Nottola Tazzi Valenza Verze' Viglietti Panzica; (2004) Human Anatomy, pag.: 600, tavole: 537 .Casa Ed.Idelson-Gnocchi; ISBN: 88-7947-377-8
- 14. Marcello Malpighi Series: Vol. 8. Molecular, Cellular and Developmental Biology of Reproduction: Basic and Clinical Aspects. P.M. Motta, S.A. Nottola and G. Macchiarelli (eds.) - Italian Journal of Anatomy and Embryology Vol. 106 (Supplement 2) n. 2, 2001. Il Sedicesimo, Firenze
- Marcello Malpighi Series: Vol. 7. Advances in Microanatomy of Cells and Tissues: Biophysical and Biochemical Correlates. P.M. Motta, G. Macchiarelli and S.A. Nottola (eds.) – It. J. Of Anatomy and Embryology, Vol. 106 (Supplement 1) n. 2, 2001. Il Sedicesimo, Firenze.
- Marcello Malpighi Series: Vol. 6. New Trends in Microanatomy of Reproduction. G. Macchiarelli, S.A. Nottola, S. Correr and P.M. Motta (eds.) It. J. of Anatomy and Embryology, Vol. 103 (Supplement 1) n. 4, 1998. Il Sedicesimo, Firenze York), pag. 103-116, 1993

# Recent Master Lectures or Invited Main Lectures in recent International Conferences

- OPENING LECTURE: "In vitro handling of human oocyte for fertility preservation. Morphological insights". XXV International Symposium of Morphological Sciences, Xi'an, China, July 26-30, 2017.
- "The human oocyte ultrastructure in ART. Recent acquisitions". 7th Yazd International Congress and Student Award in Reproductive Medicine with 2nd Congress of Reproductive Genetics and Congress of Reproductive Immunology, Yazd, Iran, April 28-30, 2017.
- ULTRASTRUCTURAL MARKERS OF AGING IN HUMAN OOCYTE. International Congress on Reproduction. Yazd, Iran, 2015
- HISTORICAL AND SCIENTIFICAL COLLOCATION OF ANATOMY IN ITALY. International Meeting on "Topical Issues of Experimental and Clinical Morphology" Aqtobe, Kazakistan, 2013
- ULTRASTRUCTURE AND MORPHOFUNCTIONAL CHANGES OF CRYOPRESERVED HUMAN OOCYTE. XXI International Symposium on Morphological Sciences, Sao Paolo, Brasil, 2012.
- THE EFFECT OF THYROID HORMONE AND GONADOTROPINS ON ANGIOGENESIS IN THE OVARY. Joint Meeting of anatomical Society, Bursa, Turkey, 2011
- ULTRASTRUCTURE AND MORPHOFUNCTIONAL CHANGES OF CRYOPRESERVED HUMAN OOCYTE, 10<sup>th</sup> Multinational Congress in Microscopy, Urbino, 2011.
- MORPHODYNAMICS OF MAMMALIAN OVARY MICROCIRCULATION. XX International Symposium of Morphological Sciences, 2008 Timisoara, Romania.
- ANGIOGENESIS IN THE MAMMALIAN OVARY: MORPHOLOGICAL ASPECTS. 5th APICA Congress, 16-19 May 2008. Tehran, Iran

#### Main scientific collaborations

- University of Rome La Sapienza, (Prof. S.A. Nottola: Ultrastructure of the Ovary)
- National Institute of Health, Rome (Italian National Health Institute: Dr. Giulia Scaravelli; Human Oocyte.
- University of Teramo, (Proff. M. Mattioli; B. Barboni; P. Berardinelli: Angiogenesis in the sheep and pig ovary)
- University of Tor Vergata-Rome (Porf. B. Intrigila: Computational Modelling of endomysial collagen)
- Catholic University of Louvain, Bruxelles, Belgium (Prof. J. Donnez: Ovarian grafting and cryopreservation)
- University of Tohoku, Sendai Japan (Prof E. Sato, Prof. K. Tanemura: International Agreement sponsored by MIUR-Interlink Biotechnology of Reproduction)
- University of Niigata; Japan (Prof. T. Ushiki: Graduate Student exchange program)
- University of Okayama, Japan (Prof. A. Othsuka: Graduate Student exchange program)
- University of Sao Paulo, Brazil (Prof. A. Miglino, postgraduate student exchange program)
- West Kazakistan Marat Ospanov Medical University; PhD Exchange program and studies on Biology of Reproduction

#### Research Programs and International Agreements activated at the University of L'Aquila

- (Local Coordinator from 2011) Tempus project n. 158627; E-learnig project in Caucasian Country; Partners: Azerbaijan, Georgia, Armenia, United Kingdom, France and Italy
- (Main Coordinator). Grant from Ministry of University N. INT01A3BAC Interlink 2001-2003 Nuovi approcci metodologici nelle biotecnologie della riproduzione – For developing a Doctorate Curriculum on Biotech of Reproduction based on PhD student exchange and Distance Learning project between Universities of L'Aquila and Tohoku
- (Coordinator of DL project) Grant from RegioneAbruzzo, CITEC Telespazio, Telecom, HERMES Project, Department of Experimental Medicine University of L'Aquila and Associazione RINDERTIMI-Avezzano, AQ) Action L.84/01 BALCANI INTERREG IIA "Cooperazione per la programmazione e la realizzazione di interventi sanitari, formative ed operativi, nella provincia albanese di Lezhe." – for developing a project of health professional updating based on people exchange, infrastructural support and distance learning.
- Coordinator of the international agreement of the University of L'Aquila with Tohoku University, Japan
- Coordinator of the international agreement of the University of L'Aquila with Okayama University, Japan
- Coordinator of the international agreement of the University of L'Aquila with Our Lady of Good Counsel University, Tirana, Albania.
- Coordinator of the international agreement of the University of L'Aquila with the Marat Hospital Medical School, University of Aqtobe, Khazakistan.

#### Activities as an Evaluator

- He was selected among the eligible Lecturers of the Anatomy Sector (05/H1) for the composition of the judging commissions for the National Scientific Qualification (ASN 2021-2023)
   Site access MIUR: https://abilitazione.miur.it/public/commissariEleggibili 2021.php?settore=05/H1
- He has been a Commissioner in Local and National competitions for the positions of Full Professor, Second Level Professor, Researcher, Research Fellow, Research Scholar, PhD, various Technical Roles, Selection for access to Degree Courses with restricted access, Competitions for Scientific and Academic Awards, Evaluations for the awarding of the title of Emeritus/Honorary Professor.
- He was an International External Evaluator for the University of Okayama, (Japan) for the accreditation by the Ministry of University of Japan for several Departments of Basic Sciences of the Faculty of Medicine.

#### Scientific Awards

- "Daniel F. Kott Award For The Best New Instrumentation" (1997) for the program "EndoCDscopy", A Multimedia Course For Endoscopic Surgeons by American Association of Gynecologic Endoscopists at the 26th Meeting 1997 Seattle; USA
- "Times Higher (THE) International Collaboration of the Year". (2012) for the project TEMPUS n. 158627
  "Development of the e-learning and distance learning courses and assessment in Biomedical Sciences in the Southern Caucasus"
- "Anatomist Excellence Award" 2013 from the International Committee of Symposia of Morphological Sciences, Niigata, Japan, September 14, 2013.
- "Premio Cesare Serono 2016" for the best book on the History of Medicine from the Academy of History of Health Art for the book "Niccolò Stenone from medicine to geology" (Eds.: Ferdinando di Orio, Gianluca Ferrini e Guido Macchiarelli, Editions: Intinere, Roma, 2016).

#### Scientific dissemination activities (III mission)

- Has collaborated in the editing of the Quark television program "Journey into the Human Body " RAI
   - di Piero Angela
- Scientific consultant for the TV program "Vivere Bene" " Canale 5 RTI of Fabrizio Trecca
- He was the Organizer and Scientific Director of the Scientific Photography **Exhibition "Microstructures** and Art" - held in L'Aquila from 20/12/2005 to 6/1/2006
- He was a consultant for the television program **Super Quark**, directed by Piero Angela, for the column "**Come siamo fatti dentro**" 2013.

**Guido Macchiarelli** Rome 25 November 2024