Giulio Cossu : *Curriculum Vitae*

Data e luogo di nascita

11.02.53, Roma,

Studi:

Maturità Classica, Rome, 1972

Laurea in Medicina e Chirurgia, voto 110/110 e lode (media esami 29.9). Luglio 1977

Attuale incarico:

2013- Professor of Regenerative Medicine, University of Manchester

Posizioni precedenti:

2012-2013 Professor of Human Stem Cell Biology, University College London
2008-2011 Direttore Divisione di Medicina Rigenerativa, H.S. Raffaele, Milan.
2005-2011 Professore di Istologia, Dip. Di Biologia, Università di Milano
2003-2008 Direttore Parco Scientifico Biomedico San Raffaele di Roma.
2000-2008 Direttore "Stem Cell Research Institute", H.S. Raffaele, Milan.
1999-2005 Professore di Istologia ed Embriologia, II° Facoltà di Medicina e Chirurgia, Università degli Studi di Roma "La Sapienza"
1994-1999: Professore, Dipartimento di Istologia ed Embriologia Medica , Università degli Studi di Roma "La Sapienza"
1993-1994: Visiting Professor. Dept. of Molecular Biology, Istitut Pasteur, Paris
1986-1993: Professore Associato, Dipartimento di Istologia ed Embriologia Medica , Università degli Studi di Roma "La Sapienza"
1983-1986: Ricercatore, Istituto di Istologia ed Embriologia Medica , Università degli Studi di Roma "La Sapienza"

Post-doctoral training:

1980-1983: USPHS Fogarty Fellow Wistar Institute, University of Pennsylvania
1978-1980: Borsista CNR, Istituto di Istologia ed Embriologia , Università "La Sapienza"

Aree di interesse:

Myogenic cell lineages; Myogenic determination; Muscle gene and cell therapy, Pluripotent stem cells.

Società scientifiche e comitati:

2019-: Member of the Advisory Council of the Italian Ministry of Health.

2017-: Member (Italian) of the Inter-Academy Partnership.
2016-: Member, Scientific Advisory Board of the Dept. of Biomedicine, Basel University
2016-2020: Member, Scientific Advisory Board of the Italian National Research Council.
2013-: Socio Accademia dei Lincei
2013-: Fellow of the Academy of Medical Sciences
2001-2017 Reviewing Editor e-Life
2011-: Member of the European Academy of Sciences
2011-2014: Member of the Committee for Advanced Therapy (CAT) of EMA
2008- 2014: Chair and Member, Panel LS7, European Research Council
2008- 2011: Directory Board of the International Society of Differentiation.
2008-: Senior Editor, EMBO Molecular Medicine
2008: ISSCR Task Force for "Clinical Translation of Stem Cell Research"
2004- 2013: Editorial Board, Cell Death & Differentiation
2004- : Editorial Board, Journal of Cell Science
2004-2007: Directory Board of the International Society of Differentiation
2003- 2011 : Member of the TIGEM External Scientific Advisory Board.
2002- 2005: Directory Board of the International Society for Stem Cell Research.
2003- 2006: Chairperson, Stem Cell Committee, European Society of Gene Therapy
2003-2006: Member of the Advisory Committee of the Armenise-Harvard Foundation
1998-2001: Presidente, ABCD (Associazione Italiana Biologia cellulare e Differenziamento)
1998-2001: Segretario , FISV (Federazione Italiana Scienze della Vita)
1997- : EMBO Member
1990-1993: Membro del Consiglio Direttivo, ABCD

Attivitá clinica:

2018-2021: PI of a "first in man" Phase I/IIa of autologous, genetically corrected stem cell transplantation in Duchenne Muscular Dystrophy
2011-2014: PI of a "first in man" Phase I/IIa of donor, HLA-matched stem cell transplantation in Duchenne Muscular Dystrophy
2009-2011: PI of an observational study on the progress of Duchenne Muscular Dystrophy in ambulant patients.

Didattica:

1996 - Developmental Biology; Differentiation and Cell Therapy; Bioethics; Cellular and Molecular Pathology; Stem Cells; Histology and Embryology; Post-graduate Medical Schools in Cardiology, Neurology, Obstetrics and Gynecology

Seminari and Meetings:

- EMBO Conference: Cell therapy today: achievements, hopes and hypes, Manchester Sept. 9-13, 1025. Organizer.
- EMBO Workshop on "Advances in Stem Cell Research", Paris April 6-8, 2011, Co-organizer.
- Gordon Research Conference "Myogenesis", Il Ciocco, Lucca, May 2004. Chairperson.
- Gordon Research Conference on "Myogenesis", Il Ciocco, Lucca, May 2001. Vice-Chairperson.

- EMBO Workshop on “Molecular Biology and Pathology of myogenesis”, Baia di Conte, September 1992, Organizer.
- Speaker and/or Chairperson nei principali meetings nell’area Stem Cell and Myogenesis. Seminari in numerosi Istituti Italiani, Europei and Nord-Americani.

Premi:

- Galileo Prize for excellence in scientific research, City of Padua 2003.
- Stella d’oro per la Medicina, Rome 2005.
- Prize for excellence in Research, Medical Academy of Turin, 2007.
- Jean Brachet Memorial Lecture (ISD) Keystone Symposium “Stem Cells Cancer and Ageing”, Singapore 28.09.2008.
- Feltrinelli prize (Accademia dei Lincei) for science, 2011

Finanziamenti:

Più di 10 EC networks, 3 come Coordinatore e molti altri grants internazionali come ad esempio l’ ERC Advanced Investigator Grant (2008). In generale, più di 10 M€ nell’ultima decade: Wellcome Trust Heath Innovation Challenge Fund, 2015; British Heart Foundation 2014; Medical Research Council 2012; European Research Council (Advanced Investigator Award) 2008; European Community: 1992, 1993, 1995 (coordinator) 1998, 1999 (coordinator), 2003, 2005, 2005, 2006, 2008 (coordinator), 2009, 2010, 2011, 2012, 2013; Muscular Dystrophy Association (USA): 2004; Association Francoise contra les myopathies: 2001, 2004, 2005, 2006, 2007, 2008, 2009; CureDuchenne: 2007; Duchenne Parent Project: 2003, 2005, 2007, 2010, 2016, 2018; Telethon (Italy):1998, 2000, 2003, 2005, 2008, 2009, 2010, 2011; Italian Ministry of Research:1997, 1999, 2001, 2003, 2005, 2007, 2009; Italian Ministry of Health: 2000, 2002, 2004, 2006, 2008, 2009.

Brevetti:

1 - Cossu, G, Dejana, E “Method to induce the differentiation of endothelial cells to cardiomyocites” WO03023022 - Science Park RAF spa, Priority Date 11/09/2001; 2 - Cossu, G, Cusella-De Angelis, MG “Method for establishing and expanding multipotent stem cells” WO03095631 - Fondazione Centro San Raffaele del Monte Tabor, Priority Date 13/05/2002; 3 - Clementi, E, Cossu, G, Brunelli, S, Ongini, E “Use of nitrooxyderivative of drug for the treatment of muscular dystrophies “ WO2007088123- Nicox s.a. 2007; 4 - Clementi, E, Cossu, G, Brunelli, S “Method of treatment for muscular dystrophy WO2007088050 - Fondazione Centro San Raffaele del Monte Tabor. Priority Date 03/02/2006; 5 - Cossu, G, Gonzalez Galvez, B, Tonlorenzi, R “Skeletal muscle periangioblasts and cardiac mesangioblasts, method for isolation and uses thereof” WO2007093412 - Fondazione Centro San Raffaele del Monte Tabor. Priority Date 16/02/2006.

Training and Supervision

Più di 60 laureandi, PhD students e post-doctoral fellows dal 1982. Molti di loro sono ora Professori o Ricercatori in varie Università Europee (e.g. Catholic University of Leuven, Trinity College in Dublin, Pavia, Rome, Milan) e Centri di Ricerca (eg. Istitut Pasteur, Istitut Monod, Istituto Superiore di Sanità etc.)

Pubblicazioni (selezionate tra 240. H index: 70):

- De Luca et al. 2019. Stem cells find they way to clinics. **Nature Cell Biol .** in press.
- Cossu et al. 2018. Lancet Commission: Stem Cells and Regenerative Medicine. **The Lancet** 391:883-910.
- Urbani et al. 2018. Multi-stage bioengineering of a layered oesophagus with in vitro expanded muscle and epithelial adult progenitors. **Nature Comm.** 9:4286.
- Roostalu et al. 2018. Distinct cellular mechanisms underlie smooth muscle turnover in vascular development and repair. **Circulation Res.** 122:267-281.
- Benedetti et al. 2018. Reversible Immortalisation Enables Genetic Correction and Engineering of Next-Generation Human Artificial Chromosomes for Duchenne Muscular Dystrophy**. EMBO Mol Med** 10:254-275.
- Aldeiri et al. 2017. Transgelin expressing myofibroblasts orchestrate ventral midline closure through TGF-β signalling. **Development** 144:3336-3348.
- Taglietti et al. 2016. Nfix induces a switch in Sox6 transcriptional activity to regulate MyHC-I expression in fetal muscle. **Cell Reports**. 17:2354-2366.
Rossi et al. 2016. Nfix regulates temporal progression of muscle regeneration through modulation of Myostatin expression. **Cell Reports** 14, 2338-49.
- Fuoco et al. 2015. In vivo generation of a mature and functional artificial skeletal muscle. **EMBO Mol Med.** 7:411-22.
- Bonfanti et al. 2015. PW1/Peg3 expression regulates the key properties determining mesoangioblast stem cell competence. **Nature Comm.** 6:6364.
- Cossu et al. 2015. Intra-arterial transplantation of HLA-matched donor mesoangioblasts in Duchenne Muscular Dystrophy. **EMBO Mol. Med.** 7(12):1513-28.
Azzoni et al. 2014. Mouse yolk sac VE-Cadherin+ cells generate mesodermal multipotent progenitors that physiologically contribute to several lineages in the embryo and in the growing and regenerating skeletal muscle. **Development** 141:1821-34.
- Cappellari et al. 2013. Dll4 and PDGF-BB convert committed skeletal myoblasts to pericytes without erasing their myogenic memory. **Developmental Cell** 24:586-99;
- Tedesco et al. 2012. Transplantation of Genetically Corrected Human iPSC-Derived Progenitors in Mice with Limb-Girdle Muscular Dystrophy. **Science Transl. Med.** 4:140ra89;
- Dellavalle et al. 2011. Pericytes resident in post-natal skeletal muscle differentiate into muscle fibers and generate satellite cells. **Nature Comm.;**2:499. doi: 10.1038/ncomms1508:
- Tedesco et al. 2011. Stem Cell-Mediated Transfer of a Human Artificial Chromosome Ameliorates Muscular Dystrophy. **Science Transl. Med.** 3(96):96ra78;
- Tedesco et al. 2010. Repairing skeletal muscle: regenerative potential of skeletal muscle cells. **J Clin Invest.** 120:11-9.
- Messina et a. 2010. Nfix regulates fetal specific transcription in developing skeletal muscle. **Cell** 140, 554-566;-
- Gargioli et al. 2008. PlGF-MMP9 expressing cells restore microcirculation and efficacy of cell therapy in old dystrophic muscle. **Nature Med.** 14:973-8.
- Dellavalle et al. 2007. Pericytes of human skeletal muscle are myogenic precursors distinct from satellite cells. **Nature Cell Biol.** 9:255-267;
- Sampaolesi et al. 2006. Mesoangioblast stem cells ameliorate muscle function in dystrophic dogs. **Nature,** 444:574-9;
- Sampaolesi et al. 2003. Cell therapy of alpha sarcoglycan null dystrophic mice through intra-arterial delivery of mesoangioblasts. **Science** 301, 487-492;
- Galli et al 2000. Skeletal myogenic potential of human and mouse neural stem cells. **Nature Neurosci.** 3:986-91;-

- Ferrari et al 1998. Muscle regeneration by bone marrow-derived myogenic progenitors. **Science** 279:1528-30.