CURRICULUM VITAE

Name: Sara Mercurio

Nationality: Italian

E-mail: sara.mercurio@unimib.it

Education:

April 2004 — PhD
National Institute for Medical Research; London, UK

May 1997 — Degree in Biology, emphasis Molecular Biology
University of Milan; Milan, Italy

Research experience:

July 2021 – today — Assistant Professor in the Department of Biotechnology and Biosciences University of Milan-Bicocca, Milan Italy
Identification of SOX2 targets in the visual thalamus in mouse

May 2011 – June 2021 — Senior Post-doctorate in the Department of Biotechnology and Biosciences University of Milan-Bicocca, Milan Italy
(Supervisor: Prof. Silvia Nicolis)
Characterization of the role of Sox2 in the development of the cerebellum, telencephalon and thalamus by means of conditional knock-out in mice

July 2010 – May 2011 — Maternity leave

April 2009 – July 2010 — Post-doctorate in the Department of Developmental Biology, Stanford University, Stanford CA, USA
(Supervisor: Prof. Will Talbot)
Characterization of astrocytes in the zebrafish brain
Characterization of a zebrafish Notch3 mutant

November 2008 – April 2009 — Maternity leave

May 2008 – November 2008 — Post-doctorate in the Department of Developmental Biology, Stanford University, Stanford CA, USA
(Supervisor: Prof. Will Talbot)
Characterization of astrocytes in the zebrafish brain
Characterization of a zebrafish Notch3 mutant

July 2006 – March 2008 — Visiting scholar in the Department of Developmental Biology, Stanford University, Stanford CA, USA
(Supervisors: Prof. Will Talbot and Prof. Steve Wilson)
Mapping of angel, a zebrafish mutant with defects in neuronal migration in the forebrain

	Characterization of astrocytes in the zebrafish brain
September 2005 – June 2006	Maternity leave
January 2004 – March 2008	Post-doctorate in the Department of Anatomy and Developmental Biology, University College London, London, UK (Supervisor: Prof. Steve Wilson) *Characterization of neuronal migration in the developing zebrafish embryo*
October 1998 – December 2003	PhD student in the Division of Developmental Biology, National Institute for Medical Research, London, UK (Supervisors: Prof. Jim Smith, Prof. Robb Krumlauf and Dr. Nobue Itasaki) *Screen for posteriorizing factors of the vertebrate nervous system.* *Characterization of Xenopus Connective tissue growth factor (xCTGF) role in early development.* *Analysis of xCTGF interaction with Wnt and BMP signalling pathways.*
May 1997 - September 1998	Postgraduate internship in the laboratory of Developmental Biology, DIBIT, Ospedale San Raffaele, Milan, Italy (Supervisor: Prof. Edoardo Boncinelli) *Analysis of the Emx2 knock-out.*
April 1995 - May 1997	Undergraduate student in the laboratory of Developmental Biology , DIBIT, Ospedale San Raffaele, Milan, Italy (Supervisor: Prof. Edoardo Boncinelli) *Study of the function of the homeobox gene Emx2 in the development of the cerebral cortex using transgenic mice.*

Fellowships:

October 2004 – March 2008	Telethon fellowship for Italians abroad

Teaching experience:

July 2022- today	Lecturer in Genetics, Bachelor Degree in Biological Sciences
March 2020	Instructor for Laboratory of Genetics Course (2 weeks course) for students of the Biology Bachelor Degree Program (articolo 45)
March 2016, 2017, 2018, 2019	Organizer of practical labs for high school students during UNISTEM Day
February 2011, December 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019	Lecture on Notch signalling in glial development Course: Genetics and Biology of animal development Course Organizer: Monica Beltrame University of Milan, Milan Italy

December 2016	Lecture on Notch signalling in glial development Course: Gene Regulation and human disease Course Organizer: Silvia Nicolis University of Milan-Bicocca, Milan Italy
September 2010	Lecture on *Xenopus* and zebrafish early development San Francisco State University, San Francisco USA
July 2007 and July 2008	Instructor for RNA and DNA injections in zebrafish embryos Stickleback Molecular Genetics Course Stanford University, Stanford USA

Speaker at International Meetings

2020	2nd Genetics of Ocular Disorders (GoOD) Meeting (originally in Paris, France but was remote)
2019	Vth International Sox Research Conference
2019	IV ImprovVision Meeting, London UK
2018	III ImprovVision Meeting, Milan Italy
2017	II ImprovVision Meeting Nice, France
2002	Second International Meeting of the CCN family of Genes, Saint Malo, France

Supervision Master Thesis Students

2016-2018	Alessia Motta currently PhD student at Ospedale San Raffaele (HSR) Milan, Italy
2014-2015	Pietro Berico currently PhD student at IGBMC, Strasbourg, France
2014-2015	Linda Scannavini currently Clinical Research Associate at Medpace Milan, Italy
2013-2014	Lorenzo Gesuita and Sara Bottes currently PhD students at University of Zurich, Switzerland
2012-2013	Chiara Alberti currently Postdoc at University of Zurich, Switzerland

Supervision PhD Students

2016-2020	Linda Serra, co-supervised with Michéle Studer (Institute de Biologie Valrose, Nice, France). Funded by a Vinci fellowship awarded by the Universita' Italo-Francese. Currently post-doc at Ospedale San Raffaele, Milan Italy.

Supervision Foreign Students

I have supervised six French students from Paris Diderot University for their three months Bachelor thesis internship. I have supervised two Erasmus students for internships of 8 months.

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Grants

2016-2019 ERANET funding for the ImprovVision consortium that includes the Nicolis and Frassoni labs in Milan, the Studer lab in Nice, the Bovolenta and Nieto labs in Madrid and the Berninger Lab in Mainz/London has funded my project on the role of Sox2 in the formation of the visual system and has allowed me to collaborate with the Bovolenta, Studer and Frassoni labs.

2011-2018 I have been part of the research team funded by: Telethon, Cariplo, PRIN, Astil Regione Lombardia.

Languages:

Native Italian
Fluent English (attended school in USA 1984-1989)
Basic Spanish

1. Foglio B., Rossini L., Garbelli R., Regondi M.C., **Mercurio S.**, Bertacchi M., Avagliano L., Bulfamante G., Coras R., Maiorana A., Nicolis S.K., Studer M. and Frassoni C. *Dynamic expression of NR2F1 and SOX2 in developing and adult human cortex: comparison with cortical malformations.* Brain Struct Funct. 2021 May;226(4):1303-1322. doi: 10.1007/s00429-021-02242-7.

2. **Mercurio S.**[#], Alberti C., Serra L., Meneghini S., Berico P., Bertolini J., Becchetti A. and Nicolis S.K.[#] *An early Sox2-dependent gene expression program required for hippocampal dentate gyrus development*. Open Biol. 2021 Feb;11(2):200339. doi: 10.1098/rsob.200339.
[#] corresponding author

3. **Mercurio S**.[#], Serra L. and Nicolis S.K.[#] *More than just stem cells: functional roles of the transcription factor Sox2 in differentiated glia and neurons.* International Journal of Molecular Sciences 2019, 20(18),4540.
[#] corresponding author

4. **Mercurio S.**, Serra L., Motta A., Gesuita L., Sanchez Arrones L., Inverardi F., Foglio B., Barone C., Kaimakis P., Martynoga B., Ottolenghi S., Studer M., Guillemot F., Frassoni C., Bovolenta P., Nicolis S.K. *Sox2 acts in thalamic neurons to control the development of retina-thalamus-cortex connectivity.* iScience 15, 257–273, May 31, 2019. Contributed to journal cover.

5. Bertolini J.A. *, Favaro R. *, Zhu Y. *, Pagin M., Ngan C.Y., Wong C.H., Tjong H., Vermunt M.W., Martynoga B., Barone C., Mariani J., Cardozo M.J., Tabanera N., Zambelli F., **Mercurio S.**, Ottolenghi S., Robson P., Creyghton M.P., Bovolenta P., Pavesi G., Guillemot F., Nicolis S.K., Wei C.L. *Mapping the Global Chromatin Connectivity Network for Sox2 Function in Neural Stem Cell Maintenance.* Cell Stem Cell. 2019 Mar 7;24(3):462-476.
(* joint first authors)

6. Barone C. *, Pagin M. *, Serra L., Motta A., Rigoldi L., Giubbolini S., Badiola-Sanga A., **Mercurio S.**, Nicolis S.K. *Sox2 Functions in Neural Cancer Stem Cells: The Importance of the Context.* Insights of Neuro-Oncology 2018, 2(1):18-26 Volume 2, Issue 1. (* joint first authors)

7. Cerrato V. *, **Mercurio S. ***, Leto K. *, Fucà E., Hoxha E., Bottes S., Pagin M., Milanese M., Ngan C-Y, Concina G., Ottolenghi S., Wei C-L., Bonanno G., Pavesi G., Tempia F., Buffo A. and

Nicolis S.K. *Sox2 conditional mutation in mouse causes ataxic symptoms, cerebellar vermis hypoplasia, and postnatal defects of Bergmann glia.* Glia 2018, Sep;66(9):1929-1946.
(* joint first authors)

8. Panaliappan T.K.*, Wittmann W.*, Jidigam V.K., **Mercurio S.**, Bertolini J.A., Sghari S., Bose R., Patthey C., Nicolis S.K., Gunhaga L. *Sox2 is required for olfactory pit formation and olfactory neurogenesis through BMP restriction and Hes5 upregulation.* Development 2018, Jan 19;145(2).
(* joint first authors)

9. Zaucker A.*, **Mercurio S.***, Sternheim N., Talbot W.S., Marlow F.L. Notch3 is essential for oligodendrocyte development and vascular integrity in zebrafish. Dis Model Mech. 2013, Sep;6(5):1246-59. (* joint first authors)

10. Ferri A., Favaro R., Beccari L., Bertolini J., Tosetti V., Verzeroli C., **Mercurio S.**, La Regina F., Ottolenghi S., Bovolenta P., Nicolis S.K. *Sox2 is required for embryonic development of the ventral telencephalon through the activation of the ventral determinants Nkx2.1 and Shh.* Development 2013, Mar;140(6):1250-61.

11. Monk K.R., Naylor S.G., Glenn T.D., **Mercurio S**., Perlin J.R., Dominguez C., Moens C.B., Talbot W.S.. *A G protein-coupled receptor is essential for Schwann cells to initiate myelination.* Science. 2009, 325(5946):1402-5.

12. Lyons D.A., Naylor S.G., **Mercurio S.**, Dominguez C., Talbot W.S. *KBP is essential for axonal structure, outgrowth and maintenance in zebrafish, providing insight into the cellular basis of Goldberg-Shprintzen syndrome.* Development. 2008, 135(3):599-608.

13. Jeong J.Y., Einhorn Z.*, **Mercurio S.***, Lee S., Lau B., Mione M., Wilson S.W., Guo S. *Neurogenin1 is a determinant of zebrafish basal forebrain dopaminergic neurons and is regulated by the conserved zinc finger protein Tof/Fez.* Proc. Natl. Acad. Sci. 2006, 103(13):5143-8.
(* contributed equally)

14. Norton W.H., Mangoli M., Lele Z., Pogoda H.M., Diamond B., **Mercurio S.**, Russell C., Teraoka H., Stickney H.L., Rauch G.J., Heisenberg C.P., Houart C., Schilling T.F., Frohnhoefer H.G., Rastegar S., Neumann C.J., Gardiner R.M., Strahle U., Geisler R., Rees M., Talbot W.S., Wilson S.W. *Monorail/Foxa2 regulates floorplate differentiation and specification of oligodendrocytes, serotonergic raphe neurones and cranial motoneurones.* Development 2005, 132(4):645-58.

15. **Mercurio S.,** Latinkic B., Itasaki N., Krumlauf R., Smith J.C. *Connective tissue growth factor (CTGF) modulates cell signaling by Wnt family members.* Development 2004, 131(9):2137-47.

16. Itasaki N., Jones C.M., **Mercurio S.**, Rowe A., Domingos P.M., Smith J.C., Krumlauf R. *WISE, a context dependent activator and inhibitor of Wnt signaling.* Development 2003, 130(18):4295-305.

17. Latinkic B.V., **Mercurio S.**, Bennett B., Hirst E.M.A., Xu Q., Lau L.F., Mohun T.J., Smith J.C. *Xenopus Cyr61 regulates gastrulation movements and modulates Wnt signalling.* Development 2003, 130(11):2429-2441.

18. Galli R., Fiocco R., De Filippis L., Muzio L., Gritti A., **Mercurio S.**, Broccoli V., Pellegrini M., Mallamaci A., Vescovi A.L. *Emx2 regulates the proliferation of stem cells of the adult mammalian central nervous system.* Development 2002, 129(7):1633-1644.

19. Domingos P.M., Itasaki N., Jones M.C., **Mercurio S.**, Sargent M.C., Smith J.C., Krumlauf R. *The Wnt/β catenin pathway posteriorizes neural tissue in Xenopus by an indirect mechanism requiring FGF signalling.* Developmental Biology 2001, 239(1):148-60.

20. Mallamaci A., **Mercurio S.**, Muzio L., Cecchi C., Pardini C.L., Gruss P., Boncinelli E. *The lack of Emx2 causes impairment of Reelin signaling and defects of neuronal migration in the developing cerebral cortex.* Journal of Neuroscience 2000, 20(3): 1109-18.

21. Mallamaci A., Iannone R., Briata P., Pintonello L., **Mercurio S.**, Boncinelli E., Corte G. *EMX2 protein in the developing mouse brain and olfactory area.* Mechanisms of Development 1998, 77 (2): 165-72.

Pubblicazioni Libri:

Bertolini J.*, **Mercurio S.***, Favaro R.*, Mariani J., Ottolenghi S., Nicolis S.K. *Sox2-Dependent Regulation of Neural Stem Cells and CNS Development.* Chapter 11 of Sox2, Biology and Role in Development and Disease. Edited by Hisato Kondoh and Robin Lovell-Badge, 2016. (* joint first authors)