

# Dr. Shilpi Minocha

## Research Interests

Gene expression and regulation, metabolism, non-alcoholic fatty liver disease, hepatocellular carcinoma



## Academic positions

- 07.2019 onwards      **Assistant Professor**  
Kusuma School of Biological Sciences, Indian Institute of Technology, Delhi
- 12.2012 – 06.2018      **Post-doctoral Scientist**  
Center for Integrative Genomics, Genopode, University of Lausanne, Switzerland
- 12.2010 – 11.2012      **Post-doctoral Scientist**  
Department of Fundamental Neurosciences, University of Lausanne, Switzerland

## Education

- 2006 – 2010      **Ph.D. Student (Molecular Biology and Biotechnology)**  
Institute of Molecular Life Sciences, University of Zürich, Switzerland
- 2003 – 2005      **M.Sc. (Molecular Biology and Biotechnology)**  
Department of Plant Molecular Biology and Biotechnology, University of Delhi, India
- 2000 – 2003      **B.Sc. (Microbiology)**  
Ram Lal Anand College, University of Delhi, India

## Awards and Achievements

1. Multiple animal experimentation continuing education certificates awarded by the Swiss Laboratory Animal Science Association, SGV–SSEAL (November, 2013) and by Association Suisse des Vétérinaires Cantonaux, ASVC (June, 2014; June, 2015; June, 2016; October, 2016; May, 2017).
2. Postdoctoral fellowship award from the “Fondation Pierre Mercier” (worth 200000 CHF) with Dr. Cécile Lebrand (2011 and 2012).
3. SSN Travel Fellowship Award (worth 700 CHF) by the Swiss Society of Neuroscience (March, 2012).
4. Animal handling and experimentation training completion certificate awarded by the Réseau des animaleries lémaniques (RESAL) (February, 2012).
5. Doctoral fellowship, PhD program – Molecular Life Sciences by the University of Zurich, Zurich, Switzerland (2006).
6. Qualified for junior research fellowship (JRF-NET) awarded by Human Resource Development Group, Council of Scientific & Industrial Research (CSIR), India (2005).

7. Best Female and Best Pass Student award for outstanding performance in studies and co-curricular activities during Bachelors studies (2003).
8. Post-Graduate Scholarship for scoring highest marks during Bachelors studies (2003).
9. Sonia Ashta Award for Best Biology student at the University of Delhi (2002).

### Other roles

1. Associate Faculty member at Faculty of 1000 ([F1000Prime](#)) (22<sup>nd</sup> October 2015 – 16<sup>th</sup> May 2018).
2. External Ph.D. thesis committee advisor for Meghna Kannan (direct supervisor: Dr. Binnaz Yalcin) at IGBMC, Strasbourg, France (2015-2016).
3. Teaching assistant in Developmental and Molecular biology courses for Bachelors and Masters students at University of Zürich (2008 to 2010) and University of Lausanne (2012 to 2016).

### Selected Recent Publications

1. **Minocha S.**<sup>§</sup> and Herr, W. (2019). Cortical and Commissural Defects Upon HCF-1 Loss in Nkx2.1-Derived Embryonic Neurons and Glia. *Dev Neurobiol.* 79(6): 578-595. doi: 10.1002/dneu.22704. Epub 2019 Jun 25. <sup>§</sup>corresponding author.
2. **Minocha, S.**, Villeneuve, D., Praz, V., Moret, C., and Herr, W. (2019). Rapid recapitulation of nonalcoholic steatohepatitis upon loss of HCF-1 function in mouse hepatocytes. *Mol Cell Biol.* 39 (5). pii: e00405-18; DOI: 10.1128/MCB.00405-18.
3. **Minocha, S.**, Villeneuve, D., Rib, L., Moret, C., Guex, N., and Herr, W. (2017). Segregated hepatocyte proliferation and metabolic states within the regenerating mouse liver. *Hepatology Commun.* 1(9): 871–885. doi: 10.1002/hep4.1102. eCollection 2017 Nov.
4. **Minocha, S.**<sup>\*</sup>, Valloton, D.<sup>\*</sup>, Arsenijevic, Y., Cardinaux, J.-R., Guidi, R., Hornung, J.-P., Lebrand, C. (2017). Nkx2.1 regulates the generation of telencephalic astrocytes during embryonic development. *Sci Rep.* 7, 43093; doi: 10.1038/srep43093. <sup>\*</sup>co-first author.
5. **Minocha, S.**, Sung, T-L., Villeneuve, D., Lammers, F., and Herr, W. (2016). Compensatory embryonic response to allele-specific inactivation of the murine X-linked gene *Hcfc1*. *Dev Biol.* 412(1):1-17. doi: 10.1016/j.ydbio.2016.02.019. Epub 2016 Feb 24.
6. **Minocha, S.**<sup>\*</sup>, Valloton D.<sup>\*</sup>, Brunet I., Eichmann A., Hornung J-P., and Lebrand, C. (2015). NG2 glial cells are required for vessel network formation during embryonic development. *Elife.* 4, pii: e09102. doi: 10.7554/eLife.09102. <sup>\*</sup>co-first author.
7. **Minocha, S.**<sup>\*</sup>, Valloton, D.<sup>\*</sup>, Yspilanti, A., Fiumelli, H., Allen, E., Yanagawa, Y., Marin, O., Chédotal, A., Hornung, J-P., and Lebrand, C. (2015). Nkx2.1-derived astrocytes and neurons together with Slit2 are indispensable for the anterior commissure formation. *Nat Commun.* 6:6887. doi: 10.1038/ncomms7887. <sup>\*</sup>co-first author.

### Publications

1. **Minocha S.**<sup>§</sup> and Herr, W. (2019). Cortical and Commissural Defects Upon HCF-1 Loss in Nkx2.1-Derived Embryonic Neurons and Glia. *Dev Neurobiol.* 79(6): 578-595. doi: 10.1002/dneu.22704. Epub 2019 Jun 25. <sup>§</sup>corresponding author.
2. **Minocha, S.**, Villeneuve, D., Praz, V., Moret, C., and Herr, W. (2019). Rapid recapitulation of nonalcoholic steatohepatitis upon loss of HCF-1 function in mouse hepatocytes. *Mol Cell Biol.* 39(5). pii: e00405-18; DOI: 10.1128/MCB.00405-18.
3. Yeganeh, M., Praz, V., Carmeli, C., Villeneuve, D., Rib, L., Guex, N., Herr, W., Delorenzi, M., Hernandez, N., and **CycliX consortium\*** (2019). Differential regulation of RNA polymerase III genes during liver regeneration. *Nucleic Acids Res.* 47(4): 1786-1796. doi: 10.1093/nar/gky1282. \*Minocha, S. is a member of CycliX.
4. Rib, L., Villeneuve, D., **Minocha, S.**, Praz, V., Hernandez, N., Guex, N.<sup>§</sup>, Herr, W.<sup>§</sup>, and the CycliX Consortium (2018). Cycles of gene expression and genome response during mammalian tissue regeneration. *Epigenetics Chromatin* 11(1): 52. doi: 10.1186/s13072-018-0222-0. <sup>§</sup>co-corresponding authors.
5. **Minocha, S.**, Villeneuve, D., Rib, L., Moret, C., Guex, N., and Herr, W. (2017). Segregated hepatocyte proliferation and metabolic states within the regenerating mouse liver. *Hepatology Commun.* 1(9): 871–885. doi: 10.1002/hep4.1102. eCollection 2017 Nov.
6. Kannan, M.\*, Bayam E, Wagner, C.\*, Rinaldi, B., Kretz, P., Tilly, P., Roos, M.\*, McGillewie, L., Bär, S., **Minocha, S.**, Chevalier, C., Po, C.; Sanger Mouse Genetics Project, Chelly, J., Mandel, J.-L., Borgatti, R., Piton, A., Kinnear, C., Loos, B., Adams, D. J., Hérault, Y., Collins, S. C., Friant, S., Godin, J. D., and Yalcin, B. (2017). WD40-repeat 47, a microtubule-associated protein, is essential for brain development and autophagy. *Proc Natl Acad Sci U S A.* 114(44):E9308-E9317. doi: 10.1073/pnas.1713625114. Epub 2017 Oct 12. \*co-first author.
7. **Minocha, S.**, Boll, W., and Noll, M. (2017). Crucial roles of Pox neuro in the developing ellipsoid body and antennal lobes of the Drosophila brain. *PLoS One.* 12(4):e0176002. doi: 10.1371/journal.pone.0176002. eCollection 2017.
8. **Minocha. S.\***, Valloton, D.\*, Arsenijevic, Y., Cardinaux, J.-R., Guidi, R., Hornung, J.-P., Lebrand, C. (2017). Nkx2.1 regulates the generation of telencephalic astrocytes during embryonic development. *Sci Rep.* 7, 43093; doi: 10.1038/srep43093. \*co-first author.
9. **Minocha, S.**, Bessonard, S., Sung, T-L., Moret, C., Constam, D.-B.<sup>§</sup>, and Herr, W.<sup>§</sup> (2016). Epiblast-specific loss of HCF-1 leads to failure in anterior-posterior axis specification. *Dev Biol.* 418(1): 75-88. doi: 10.1016/j.ydbio.2016.08.008. Epub 2016 Aug 9. <sup>§</sup>co-corresponding author.
10. **Minocha, S.**, Sung, T-L., Villeneuve, D., Lammers, F., and Herr, W. (2016). Compensatory embryonic response to allele-specific inactivation of the murine X-linked gene *Hcfc1*. *Dev Biol.* 412(1):1-17. doi: 10.1016/j.ydbio.2016.02.019. Epub 2016 Feb 24.
11. **Minocha, S.\***, Valloton D.\*, Brunet I., Eichmann A., Hornung J-P., and Lebrand, C. (2015). NG2 glial cells are required for vessel network formation during embryonic development. *Elife.* 4, pii: e09102. doi: 10.7554/eLife.09102. \*co-first author.
12. **Minocha, S.\***, Valloton, D.\*, Yspilanti, A., Fiumelli, H., Allen, E., Yanagawa, Y., Marin, O., Chédotal, A., Hornung, J-P., and Lebrand, C. (2015). Nkx2.1-derived astrocytes and neurons

together with Slit2 are indispensable for the anterior commissure formation. *Nat Commun.* 6:6887. doi: 10.1038/ncomms7887. \*co-first author.

13. Niquille, M.\* , **Minocha, S.\***, Hornung, J.-P., Rufer, N., Valloton, D., Kessaris, N., Alfonsi, F., Vitalis, T., Yanagawa, Y., Devenoges, C., Dayer, A., and Lebrand, C. (2013). Two specific populations of GABAergic neurons originating from the medial and the caudal ganglionic eminences aid in proper navigation of callosal axons. *Dev Neurobiol.* 73(9): 647–672. doi: 10.1002/dneu.22075. Epub 2013 Aug 2. \*co-first author.
14. **Minocha, S.**, Boll, W., and Noll, M. (2009). Seminar Paper. Role of Poxn in *Drosophila* ellipsoid body development. *Journal of Neurogenetics* 23:S22.