

Sofia Grade

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PERSONAL DATA

Date / Place of birth January 24th, 1983; Coimbra, Portugal
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ACADEMIC POSITIONS

2020-present *Group leader* at the Institute of Molecular Biotechnology of the Austrian Academy of Sciences (IMBA), Vienna, Austria.
2012-2019 *Postdoctoral scientist* at the Ludwig Maximilian University (LMU) of Munich and Helmholtz Center Munich, Munich, Germany (Magdalena Götz Lab).

EDUCATION

2006-2012 *PhD* at the University of Coimbra, Coimbra, Portugal, and at the Laval University, Québec, Canada. (João Malva Lab / Armen Saghatelian Lab; summa cum laude).
2001-2006 *Studies in Biology* at the University of Coimbra, Coimbra, Portugal (internship at João Malva Lab; 19 out of 20).

FUNDING

- 2019-2026 (6y) Foundation for Science and Technology (FCT), ID CEECIND/03146/2017, individual grant (declined by the applicant).
- 2018-2021 (4y) German Research Foundation (DFG), Collaborative Research Center SFB 870, ID 118803580, team member (active).
- 05/2011-08/2011 (4mo) Québec Fund for Nature and Technology Research (FQRNT), Merit Scholarship Program for Foreign Students, ID 14964, individual grant.
- 2006-2010 (4y) FCT, PhD Programme in Experimental Biology and Biomedicine, ID SFRH/BD/32953/2006, individual grant.
- 2010-2013 (3y) FCT, ID PTDC/SAU-NEU/104415/2008, team member.
- 2007-2010 (3y) FCT, ID PTDC/SAU-NEU/68465/2006, team member.

Travel awards:

- 2019 SyNergy (Munich cluster for Systems Neurology) - Cortical Connections meeting, from the International Research Consortium for the Corpus Callosum and Cerebral Connectivity (IRC5), Paris, France.
- 2018 SyNergy - Tissue Clearing and 3D Imaging workshop, at Ertürk lab, Munich, Germany.
- 2018 SyNergy - FELASA course functions (a), (b), (d) according to the Directive 2010/63/EU, former Category C, at i3S, Porto, Portugal.
- 2017 Campaign for Alzheimer's Research in Europe (C.A.R.E) - International Neural Transplantation and Repair (INTR) meeting, Cairns, Australia.
- 2017 Portuguese Society for Neuroscience (SPN) - SPN meeting, Braga, Portugal.
- 2016 Synergy - Neuroscience 2016 meeting from the Society for Neuroscience (SfN), San Diego, USA.
- 2016 Champalimaud Neuroscience Programme (CNP) - CNP2016 meeting, Lisbon, Portugal.

INVITED TALKS in conferences and institutional symposia

- 2019 IMBA Mini-Symposium on Stem Cell Biology, Vienna, Austria
- 2018 CMMC Mini-Symposium in Molecular Medicine, Cologne, Germany
- 2018 Simpósio Luso-Brasileiro de Neurociências and 2nd International Symposium in Neurosciences, Fortaleza, Brazil

- 2018 S&B International Education Program, RIKEN Brain Science Institute (BSI), Wako, Japan
UC-Biotech, Cantanhede, Portugal
- 2018 CNC PhD Programme PDBEB Symposium, Coimbra, Portugal
- 2017 European Stroke Organization (ESO) Workshop, Garmisch-Partenkirchen, Germany
- 2015 Network for European CNS Transplantation & Restoration (NECTAR) meeting, Lund, Sweden
Life and Health Sciences Research Institute (ICVS), University of Minho, Braga, Portugal

TEACHING ACTIVITY

Supervision of graduate students and postdoctoral fellows:

- Since 2016/8 Thesis supervision of 2 PhD students at the LMU Munich and Helmholtz Center Munich, Munich, Germany.
- Since 2013 Mentoring in experimental design, data interpretation and career development (LMU), in transplantation studies (RIKEN and LMU), brain injury (LMU), viral injections (LMU), acute brain slices (LMU) and connectivity analysis (LMU, ICVS).

Teaching in PhD programs, summer schools or symposia:

- 2018 Seminar “Neural stem cells in brain repair and connectomics” and Workshop “Advanced methods in neural stem cells research” at Simpósio Luso-Brasileiro de Neurociências and 2nd International Symposium in Neurosciences, Fortaleza, Brazil.
- 2018 Seminar “Reconstruction of brain circuitries using neuronal transplantation” at S&B International Education Program, RIKEN Brain Science Institute, Wako, Japan.
- 2018 Seminar “The quest for brain repair: are we turning the page?” at CNC PhD Programme PDBEB Symposium, Coimbra, Portugal.
- 2010 Practical course “Tracking cell migration and maturation in the adult brain” at Frontiers in Neurophotonics Summer School, Laval University, Québec, Canada.

OTHER ACTIVITIES

Editor/reviewer activity:

- Guest Associate Editor of the Frontiers Research Topic “Regeneration and Brain Repair”.
- Reviewer for the international peer-reviewed journals Frontiers in Neuroscience, Frontiers in Cellular Neuroscience, Neuroscience Letters, Neural plasticity and Cell Death and Disease.

Membership in scientific societies:

Society for Neuroscience (SfN), Federation of European Neuroscience Societies (FENS), International Society for Stem Cell Research (ISSCR), German Stem Cell Network (GSCN), Portuguese Society for Neuroscience (SPN), Portuguese Society for Stem Cells and Cell Therapies (SPCE-TC).

PUBLICATIONS

Journal articles

1. Petrik D, Myoga MH, **Grade S**, Gerkau NJ, Pusch M, Rose CR, Grothe B, Götz M. Epithelial sodium channel regulates adult neural stem cell proliferation in a flow-dependent manner. *Cell Stem Cell* 2018, 22:865-78.e8. Highlighted in *Cell Stem Cell*.
2. **Grade S[†]**, Götz M[†]. Neuronal replacement therapy: previous achievements and challenges ahead. *npj Regen Med* 2017, 2:29. [†]**co-corresponding authors**.
3. Falkner S[‡], **Grade S[†]**, Dimou L, Conzelmann KK, Bonhoeffer T, Götz M[§], Hübener M[§]. Transplanted embryonic neurons integrate into adult neocortical circuits. *Nature* 2016, 539:248-53. [†]**co-first authors**, [§]co-senior authors. (Cover of the Nov 10th Issue; Highlighted in *Cell Stem Cell*, *Nature Neuroscience*, *F1000 Neuroscience*).
4. Rosa AI, **Grade S**, Santos SD, Bernardino L, Chen TC, Relvas J, Hofman FM, Agasse F. Heterocellular contacts with mouse brain endothelial cells via laminin and $\alpha 6\beta 1$ integrin sustain subventricular zone (SVZ) stem/progenitor cells properties. *Front Cell Neurosci* 2016, 10:284.
5. Schneider S, Gruart A, **Grade S**, Zhang Y, Kröger S, Kirchhoff F, Eichele G, Delgado García JM, Dimou L. Decrease in newly generated oligodendrocytes leads to motor dysfunctions and changed myelin structures that can be rescued by transplanted cells. *Glia* 2016, 64:2201-18.

6. Xapelli S[†], Agasse F[†], **Grade S**, Bernardino L, Ribeiro FF, Schitine CS, Heimann AS, Ferro ES, Sebastião AM, De Melo Reis RA, Malva JO. Modulation of subventricular zone oligodendrogenesis: a role for hemopressin? *Front Cell Neurosci* 2014, 8:59. [†]co-first authors.
7. **Grade S**, Weng YC, Snapyan M, Kriz J, Malva JO, Saghatelian A. Brain-derived neurotrophic factor promotes vasculature-associated migration of neuronal precursors toward the ischemic striatum. *PLoS One* 2013, 8:e55039.
8. **Grade S**, Bernardino L, Malva JO. Oligodendrogenesis from neural stem cells: perspectives for remyelinating strategies. *Int J Dev Neurosci* 2013, 31:692-700.
9. Bernardino L, Eiriz MF, Santos T, Xapelli S, **Grade S**, Rosa AI, Cortes L, Ferreira R, Bragança J, Agasse F, Ferreira L, Malva JO. Histamine stimulates neurogenesis in the rodent subventricular zone. *Stem Cells* 2012, 30:773-84.
10. De Melo Reis RA, Schitine CS, Köfalvi A, **Grade S**, Cortes L, Gardino PF, Malva JO, de Mello FG. Functional identification of cell phenotypes differentiating from mice retinal neurospheres using single cell calcium imaging. *Cell Mol Neurobiol* 2011, 31:835-46.
11. Eiriz MF, **Grade S**, Rosa A, Xapelli S, Bernardino L, Agasse F, Malva JO. Functional evaluation of neural stem cell differentiation by single cell calcium imaging. *Curr Stem Cell Res Ther* 2011, 6:288-96.
12. **Grade S**, Agasse F, Bernardino L, Silva CG, Cortes L, Malva JO. Functional identification of neural stem cell-derived oligodendrocytes by means of calcium transients elicited by thrombin. *Rejuvenation Res* 2010,13:27-37.
13. Bernardino L, Agasse F, Silva B, Ferreira R, **Grade S**, Malva JO. Tumor necrosis factor-alpha modulates survival, proliferation, and neuronal differentiation in neonatal subventricular zone cell cultures. *Stem Cells* 2008, 26:2361-71.
14. Agasse F, Bernardino L, Kristiansen H, Christiansen SH, Ferreira R, Silva B, **Grade S**, Woldbye DP, Malva JO. Neuropeptide Y promotes neurogenesis in murine subventricular zone. *Stem Cells* 2008, 26:1636-45.
15. Agasse F, Bernardino L, Silva B, Ferreira R, **Grade S**, Malva JO. Response to histamine allows the functional identification of neuronal progenitors, neurons, astrocytes, and immature cells in subventricular zone cell cultures. *Rejuvenation Res* 2008, 11:187-200.
16. Xapelli S, Bernardino L, Ferreira R, **Grade S**, Silva AP, Salgado JR, Cavadas C, Grouzmann E, Poulsen FR, Jakobsen B, Oliveira CR, Zimmer J, Malva JO. Interaction between neuropeptide Y (NPY) and brain-derived neurotrophic factor in NPY-mediated neuroprotection against excitotoxicity: a role for microglia. *Eur J Neurosci* 2008, 27:2089-102.
17. Simões PF, Silva AP, Pereira FC, Marques E, **Grade S**, Milhazes N, Borges F, Ribeiro CF, Macedo TR. Methamphetamine induces alterations on hippocampal NMDA and AMPA receptor subunit levels and impairs spatial working memory. *Neuroscience* 2007, 150:433-41.

Book chapters

1. **Grade S**, Agasse F, Bernardino L, Malva JO. Functional identification of neural stem cell-derived oligodendrocytes. *Methods Mol Biol* 2012, In: *Somatic Stem Cells: Methods and Protocols* (Singh, SR, ed), vol. 879: 165-178. Humana Press; Springer Science+Business Media.

2. **Grade S**, Rosa AI, Silva AC, Bernardino L, Malva JO, Rego AC. 2017. In: Neurociências, Neurogênese e Terapia Celular do Cérebro. Lidel - Edições Técnicas.

Patents

1. 2010 **Grade S**, Agasse F, Bernardino L, Malva JO. Method for the functional identification of SVZ-derived oligodendrocytes based on selective response to thrombin and utilization thereof. WIPO, WO 2010/046876.