

Stanford



Anca M. Pasca, MD

Assistant Professor of Pediatrics

Pediatrics - Neonatal and Developmental Medicine

CLINICAL OFFICES

- **Neonatology-Stanford University**

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Bio

CLINICAL FOCUS

- Pediatrics

ACADEMIC APPOINTMENTS

- Assistant Professor - University Medical Line, Pediatrics - Neonatal and Developmental Medicine
- Member, Bio-X
- Member, Maternal & Child Health Research Institute (MCHRI)
- Member, Wu Tsai Neurosciences Institute

HONORS AND AWARDS

- Inaugural Bhatt-Ramanathan Scholarship Award, California Association of Neonatologists (CAN)
- 2017 STAT Wunderkinds Award, STAT News
- Pediatric Scientist Development Program Award, The Association of Medical School Pediatric Department Chairs (AMSPDC)
- Bechtel Endowed Fellow in Pediatric Translational Medicine, Child Health Research Institute, Stanford University

PROFESSIONAL EDUCATION

- Board Certification: Pediatrics, American Board of Pediatrics (2019)
- Fellowship: Stanford University Neonatology Fellowship (2018) CA
- Residency: Stanford University Hospital and Clinics, Lucile Packard Children's Hospital (2013) CA
- Medical Education: Iuliu Hatieganu University of Medicine (2007) Romania
- Neonatology Fellowship, Lucile Packard Children's Hospital, Stanford University , Neonatology (2018)
- PSDP Scholar, Lucile Packard Children's Hospital, Stanford University , Perinatal Brain Development (2016)
- Board Certification, Pediatrics, American Board of Pediatrics (2013)
- Pediatrics Residency, Lucile Packard Children's Hospital, Stanford University , Pediatrics (2013)
- Pediatrics Internship, Lucile Packard Children's Hospital, Stanford University , Pediatrics (2011)

- ECFMG Certification, Educational Commission for Foreign Medical Graduates , Medicine (2009)
- M.D., Iuliu Hatieganu University of Medicine and Pharmacy, Romania , Medicine (2007)

LINKS

- Lab website: <https://www.neopascalab.org/>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

The research focus of the lab is to understand molecular mechanisms underlying neurodevelopmental disorders associated with premature birth, neonatal and fetal brain injury with the long-term goal of translating the lab's findings into therapeutics. The research team employs a multidisciplinary approach involving genetics, molecular and developmental neurobiology, animal models and neural cells differentiated from patient-derived induced pluripotent stem (iPS) cells. In particular, the lab is using a powerful 3D human brain-region specific organoid system developed at Stanford (Nature Methods, 2015; Nature Protocols, 2018) to ask questions about brain injury during development.

<https://www.neopascalab.org/>

Teaching

STANFORD ADVISEES

Postdoctoral Faculty Sponsor

Jong Bin Choi, Yusuke Hori, Li Li, Dhriti Nagar

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Neonatal-Perinatal Medicine (Fellowship Program)

Publications

PUBLICATIONS

- **Anatomical and functional maturation of the mid-gestation human enteric nervous system.** *Nature communications*
Dershowitz, L. B., Li, L., Pasca, A. M., Kaltschmidt, J. A.
2023; 14 (1): 2680
- **Single-cell transcriptomic landscape of the developing human spinal cord.** *Nature neuroscience*
Andersen, J., Thom, N., Shadrach, J. L., Chen, X., Onesto, M. M., Amin, N. D., Yoon, S. J., Li, L., Greenleaf, W. J., Müller, F., Pa#ca, A. M., Kaltschmidt, J. A., Pa#ca, et al
2023
- **Carnitine octanoyltransferase is important for the assimilation of exogenous acetyl-L-carnitine into acetyl-CoA in mammalian cells.** *The Journal of biological chemistry*
Hsu, J., Fatuzzo, N., Weng, N., Michno, W., Dong, W., Kienle, M., Dai, Y., Pasca, A., Abu-Remaileh, M., Rasgon, N., Bigio, B., Nasca, C., Khosla, et al
2022: 102848
- **Perinatal infection, inflammation, preterm birth, and brain injury: A review with proposals for future investigations.** *Experimental neurology*
Reiss, J. D., Peterson, L. S., Nesamoney, S. N., Chang, A. L., Pasca, A. M., Mari#, I., Shaw, G. M., Gaudilliere, B., Wong, R. J., Sylvester, K. G., Bonifacio, S. L., Aghaeepour, N., Gibbs, et al
2022: 113988
- **Dissecting the molecular basis of human interneuron migration in forebrain assembloids from Timothy syndrome.** *Cell stem cell*
Birey, F., Li, M. Y., Gordon, A., Thete, M. V., Valencia, A. M., Revah, O., Pa#ca, A. M., Geschwind, D. H., Pa#ca, S. P.
2021

- **Chromatin and gene-regulatory dynamics of the developing human cerebral cortex at single-cell resolution.** *Cell*
Trevino, A. E., Müller, F., Andersen, J., Sundaram, L., Kathiria, A., Shcherbina, A., Farh, K., Chang, H. Y., Pasca, A. M., Kundaje, A., Pasca, S. P., Greenleaf, W. J.
2021
- **The CD22-IGF2R interaction is a therapeutic target for microglial lysosome dysfunction in Niemann-Pick type C.** *Science translational medicine*
Pluinage, J. V., Sun, J., Claes, C., Flynn, R. A., Haney, M. S., Iram, T., Meng, X., Lindemann, R., Riley, N. M., Danhash, E., Chadarevian, J. P., Tapp, E., Gate, et al
2021; 13 (622): eabg2919
- **Increased Tau Expression Correlates with Neuronal Maturation in the Developing Human Cerebral Cortex.** *eNeuro*
Fiock, K. L., Smalley, M. E., Crary, J. F., Pasca, A. M., Hefti, M. M.
2020
- **Human 3D cellular model of hypoxic brain injury of prematurity** *NATURE MEDICINE*
Pasca, A. M., Park, J., Shin, H., Qi, Q., Revah, O., Krasnoff, R., O'Hara, R., Willsey, A., Palmer, T. D., Pascz, S. P.
2019; 25 (5): 784+
- **Human 3D cellular model of hypoxic brain injury of prematurity.** *Nature medicine*
Pasca, A. M., Park, J. Y., Shin, H. W., Qi, Q. n., Revah, O. n., Krasnoff, R. n., O'Hara, R. n., Willsey, A. J., Palmer, T. D., Pasca, S. P.
2019
- **Reliability of human cortical organoid generation** *NATURE METHODS*
Yoon, S., Elahi, L. S., Pasca, A. M., Marton, R. M., Gordon, A., Revah, O., Miura, Y., Walczak, E. M., Holdgate, G. M., Fan, H., Huguenard, J. R., Geschwind, D. H., Pasca, et al
2019; 16 (1): 75+
- **Reliability of human cortical organoid generation.** *Nature methods*
Yoon, S. J., Elahi, L. S., Pasca, A. M., Marton, R. M., Gordon, A. n., Revah, O. n., Miura, Y. n., Walczak, E. M., Holdgate, G. M., Fan, H. C., Huguenard, J. R., Geschwind, D. H., Pasca, et al
2019; 16 (1): 75–78
- **Generation and assembly of human brain region-specific three-dimensional cultures.** *Nature protocols*
Sloan, S. A., Andersen, J., Pasca, A. M., Birey, F., Pasca, S. P.
2018
- **Functional cortical neurons and astrocytes from human pluripotent stem cells in 3D cultures.** *Nature Methods*
Pasca, A. M., Sloan, S., Clarke, L. E., Tian, Y., Makinson, C., Huber, N., Kim, C., Park, J., O'Rourke, N., Nguyen, K., Smith, S. J., Huguenard, J., Geschwind, et al
2015: 671–78
- **PLACENTAL HORMONE CONTRIBUTION TO FETAL BRAIN DAMAGE** *Joint Meeting of the International-Federation-of-Placenta-Associations (IFPA) and European-Placenta-Group (EPG)*
Penn, A., Moss, W., Agrawal, M., Volate, S., Leuenberger, D., Kiraly, M., Pasca, A., Chisholm, K.
W B SAUNDERS CO LTD.2014: A52–A52
- **Neonatal CSF oxytocin levels are associated with parent report of infant soothability and sociability.** *Psychoneuroendocrinology*
Clark, C. L., St John, N., Pasca, A. M., Hyde, S. A., Hornbeak, K., Abramova, M., Feldman, H., Parker, K. J., Penn, A. A.
2013; 38 (7): 1208-1212
- **Using iPSC-derived neurons to uncover cellular phenotypes associated with Timothy syndrome** *NATURE MEDICINE*
Pasca, S. P., Portmann, T., Voineagu, I., Yazawa, M., Shcheglovitov, A., Pasca, A. M., Cord, B., Palmer, T. D., Chikahisa, S., Nishino, S., Bernstein, J. A., Hallmayer, J., Geschwind, et al
2011; 17 (12): 1657-U176
- **Using induced pluripotent stem cells to investigate cardiac phenotypes in Timothy syndrome** *NATURE*
Yazawa, M., Hsueh, B., Jia, X., Pasca, A. M., Bernstein, J. A., Hallmayer, J., Dolmetsch, R. E.
2011; 471 (7337): 230-U120
- **The Placenta: The Lost Neuroendocrine Organ** *Neoreviews*
Pasca, A. M., Penn, A. A.

