

## Postdoctoral Research Scientist/Fellow.

Postdoctoral position available in the laboratory of Dr. Simone Sanna-Cherchi in the Division of Nephrology at Columbia University Medical Center, New York.

### The Laboratory

The Sanna-Cherchi lab is dedicated to the investigation of the genetic causes of human kidney disease, with special emphasis on congenital malformation of the kidney and urinary tract and primary glomerulonephritis, including minimal change disease (MCD) and focal segmental glomerulosclerosis (FSGS). Using state-of-the-art genomic technologies, large datasets at scale with deep clinical and genetic information (including DNA microarrays, exome sequencing, and short and long-read genome sequencing), we are unraveling the genetic underpinnings of pediatric and adult nephropathies to identify mechanisms and facilitate development of novel therapies.

Our work spans the entire spectrum of human genetics approaches. Over the years, we have established a global network of investigators across over 20 countries, recruiting patients for genetic studies. With the use of new high-throughput technologies we have made seminal discoveries that are changing medical management and treatment for kidney disease in children and young adults worldwide. Our work has been published in the most prestigious scientific journals including the *New England Journal of Medicine*, *Nature Genetics*, *Nature Communications*, the *American Journal of Human Genetics*, the *Journal of Clinical Investigation*; *Kidney International*; the *Journal of the American Society of Nephrology*, *Genetics in Medicine*, and many others. The laboratory has been continuously funded by federal and non-federal grants from the National Institute of Health (NIH), the Department of Defense (DoD), the American Society of Nephrology (ASN), the American Heart Association (AHA), the Telethon Institute, the NephCure Foundation, and many others. The PI also has a strong track record of securing funding for trainees, including American Association of University Women, AAUW Fellowship; Dutch KNAW Ter Muelen Grant; Dutch Kidney Foundation Postdoctoral Fellowship; Italian Society of Nephrology Fellowship for Fellows Abroad; American Society of Nephrology Ben J. Lipps Research Fellowship Program; American Urology Association (AUA); NIDDK T32 and T35 Awards; NIDDK F32 NRSA Training Award; NIDDK T32 NRSA Training Award; NEPTUNE Fellowship Award.

Lab website: <https://columbianephrology.org/sanna-cherchi-lab-welcome/>

Publications: <https://pubmed.ncbi.nlm.nih.gov/?term=sanna-cherchi+s&sort=date>

Twitter / X: @SannaCherchiLab

### The candidate

We are seeking a motivated researcher to join our highly dynamic environment with the opportunity to train with leading investigators in the field of human genetics, nephrotic syndrome, and developmental biology. The selected candidate will work on human genetics of pediatric and young adult kidney disease with broad medical relevance, by using state-of-the-art genomic tools to identify common and rare variants with large effect on the phenotype. The candidate will have access to unique cohorts of cases and controls including hundreds of thousands of samples with DNA arrays and exome sequencing, as well tens of thousands with whole genome sequencing data, organized in case-control, trios, or family-based studies. Each candidate will be able to lead their own project and enjoy collaboration opportunities with other investigators working on large-scale genomic data and on functional modeling in vertebrates.

The qualified candidate should possess:

- 1) A M.D. or Ph.D. preferably in Genomics, Molecular genetics, Statistics, Bioinformatics, Computer Science, Physics, or a related field.
- 2) Knowledge of molecular biology and genetics principles.
- 3) Extensive experience in conducting large-scale genomic studies and developing bioinformatics pipelines for bioinformatics data analysis, encompassing both microarray and next generation sequencing datasets.
- 4) Proficiency in using the Linux OS and at least one programming language (python, perl, R or C/C++).
- 5) Experience with working with the cloud environment (AWS, GCP).
- 6) Effective scientific communication skills to collaborate with biologists, clinicians, and other team members.
- 7) Awareness of current trends and advancements in bioinformatics and computational biology research.
- 8) Strong problem-solving skills and the desire to innovate.

Please send your cover letter and CV directly to:

Tze Y. (Joanne) Lim [tl2829@cumc.columbia.edu](mailto:tl2829@cumc.columbia.edu)

Simone Sanna-Cherchi [ss2517@cumc.columbia.edu](mailto:ss2517@cumc.columbia.edu)