

Dr. Angeline ROUERS

angeline.rouers@gmail.com

www.angeline-rouers.fr



Summary:

I am an immunologist, expert in B cells and infectious diseases. I obtained a PhD in immunology from the Université Pierre et Marie Curie (Paris, France) in 2016 by studying the impact of HIV infection on follicular helper T cells and memory B cell responses.

I joined A*STAR in 2017 at the Singapore Immunology Network to study B cells and antibody response in dengue-infected patients. Since 2021, I pursue my research at the newly settled A*STAR Infectious Diseases Labs. My current research focus is on memory B cell and antibody responses in the context of vaccination and infection (COVID-19, H5N1, mosquito-borne diseases).

I'm highly involved in science communication to bridge the gap between Science and Society and to fight against misinformation.

Work experience:

- 2021 – Today:** **Senior Scientist (2023-Today) / Research Scientist (2021-2023)**
Infectious Diseases Labs (ID Labs), A*STAR, Singapore
Laboratory of Pathogen Immunobiology, Prof. Laurent Renia's Lab
- 2017 – Today:** **Freelance Scientist**
Scientific Writing and social media fact-checking
- 2017 – 2021:** **Research Fellow**
Singapore Immunology Network (SIgN), A*STAR, Singapore
Dr. Katja Fink's Lab
- 2016 – 2017:** **Project Manager**
Corevac (Coordination de Recherches Vaccinales), Paris, France
- 2013 – 2016:** **PhD Student**
Center for immunology and microbial infection (CIMI), Paris, France
Co-supervised by Dr. Arnaud Moris and Prof. Stéphanie Graff-Dubois
- 2015 – 2016:** **Associate science communication officer**
Cité des Sciences et de l'Industrie, Paris, France
- 2013:** **Master degree internship in research laboratory**
Immunology, Immunopathology, Immunotherapy Laboratory, Paris, France
Dr. Benoît Salomon's Lab

Education:

- March 2023:** Project Management Course,
EPM Training Services, Singapore.
- March 2017:** International vaccinology course
Pasteur Institute, Paris, France.
- 2013 – 2016:** **Doctoral degree (PhD) – Immunology**
Université Pierre et Marie Curie, Paris, France.
- 2011 – 2013:** European **Master Degree** - Cellular and Molecular Biology
Université Pierre et Marie Curie, Paris, France.
- 2008 – 2011:** **Bachelor Degree** - Life Sciences
Université Henri Poincaré, Nancy, France.

Selected scientific publications:

- Goh YS, Fong SW, Tay MZ, Rouers A, ... Ng LFP and Renia L. Higher Delta variant-specific neutralizing antibodies prevented infection in close contacts vaccinated with ancestral mRNA vaccines during the SARS-CoV-2 Delta wave. **Sci Rep**. 2023 Nov 7;13(1):19331.
- Chang ZW*, Goh YS*, Rouers A*, ... Ng LFP, Renia L. COVID-19 Study Group. Third dose of BNT162b2 improves immune response in liver transplant recipients to ancestral strain but not Omicron BA.1 and XBB. **Front Immunol**. 2023 Jul 3;14:1206016.
- Rouers A, Tay MZ, Ng LFP and Renia L. B-cell ELISpot assay to analyze human memory B cell and plasmablast responses specific to SARS-CoV-2 receptor-binding domain. **STAR Protoc**. 2023 Feb 9;4(1):102130.
- Goh YS, Rouers A, ... Ng LFP and Renia L. Waning of specific antibodies against Delta and Omicron variants five months after a third dose of BNT162b2 SARS-CoV-2 vaccine in elderly individuals. **Front Immunol**. 2022 Nov 14;13:1031852.
- Rouers A*, Wong N*, ... Ng LFP and Renia L. Efficient recall of SARS-CoV-2 variant-reactive B cells and T responses in the elderly upon heterologous mRNA vaccines as boosters. **J Med Virol**. 2022 Oct 27:e28258.
- Goh YS*, Fong SW*, Rouers A*, ... Ng LF, Renia L. Heterologous booster vaccination with CoronaVac following prime vaccination with mRNA vaccine. **Clin Transl Immunology** 2022 Aug 23;11(8):e1403.
- Renia L, Goh YS*, Rouers A*, ...Ng LFP. Lower vaccine-acquired immunity in the elderly population following two-dose BNT162b2 vaccination is alleviated by a third vaccine dose. **Nat Commun**. 2022 Aug 8;13(1):4615.
- Tay MZ*, Rouers A*, ... Renia L and Ng LFP. Decreased memory B cells frequencies in COVID-19 Delta variant vaccine breakthrough infection. **EMBO Mol Med**. 2022 Jan 6:e15227.
- Rouers A*, Appanna R*, ... and Fink K. CD27hiCD38hi plasmablasts are activated B cells of mixed origin with distinct function. **iScience**. 2021 Apr 29;24(5):102482.
- Rouers A*, Chng MHY*, ... and Fink K. Immune cell phenotypes associated with disease severity and long-term neutralizing antibody titers after natural dengue virus infection. **Cell Rep Med**. 2021 May 18;2(5):100278.
- Chng MHY, Lim MQ, Rouers A, ... and Newell EW. Large-Scale HLA Tetramer Tracking of T Cells during Dengue Infection Reveals Broad Acute Activation and Differentiation into Two Memory Cell Fates. **Immunity** 2019 Dec 17;51(6):1119-1135.e5.
- Rouers A*, Klingler J*,... Moris A. HIV-Specific B Cell Frequency Correlates with Neutralization Breadth in Patients Naturally Controlling HIV-Infection. **EBioMedicine** 2017 Jul;21:158-169.
- Colineau L*, Rouers A*, ... Graff-Dubois S. HIV-Infected Spleens Present Altered Follicular Helper T Cell (Tfh) Subsets and Skewed B Cell Maturation. **PLoS One** 2015 Oct 26;10(10):e0140978.

*equal contribution

Full Publications list is available [here](#)

Talks and poster presentations:

Poster:

- “Efficient recall of SARS-CoV-2 variant-reactive B cells and T responses in the elderly upon heterologous mRNA vaccines as boosters”, Singapore Immunology Society annual conference, November 2022, Singapore.
- “A longitudinal investigative study of dengue-specific B cell responses during natural infection” – 5th European Congress of Immunology, September 2018, Amsterdam (Netherlands).
- “A longitudinal investigative study of dengue-specific B cell responses during natural infection” – 11th SgSI annual symposium, May 2019, Singapore.
- “A longitudinal investigative study of dengue-specific B and T cell responses during natural infection” - 17th International Congress of Immunology, October 2019, Beijing (China).
- “Multiple defective follicular helper T cells subsets support inappropriate germinal center reaction in chronic HIV infection”, Annual Meeting of the French Society for Immunology, November 2014, Lille (France).

Talks:

- “Memory B cell responses following vaccination and infection”, A*STAR ID Labs Post*ID, August 2023, Singapore.
- “A longitudinal investigative study of dengue-specific B and T cell responses during natural infection” - 17th International Congress of Immunology, October 2019, Beijing (China).

- “Multiple defective follicular helper T cells subsets support inappropriate germinal center reaction in chronic HIV infection”, Annual Meeting of the French Society for Immunology, November 2014, Lille (France).

Collaboration with industry and public sector:

- Project Agreement between ID Labs and Tan Tock Seng Hospital for the obtention of bone marrow samples (since 2023, ongoing): Study of SARS-CoV-2-specific long-lived plasma cells in the bone marrow of vaccinated individuals.
- Research Collaboration Agreement between SigN/TTSH/MSD-Merck (2017-2022): An investigative study of dengue-specific immunity longitudinally during natural infection and after vaccination.

Grants and Awards:

- A*STAR I&E GAP FUNDING, current - S\$712, 400
- ID Labs Kickstarter fund, current - S\$95,000
- Recipient of the Singapore National COVID-19 Resilience Medal, 2023.
- A*STAR COVID Award, 2021.
- SgSI Travel Awards 2019 - 17th International Congress of Immunology, Beijing (China)
- Best Presentation Award, Doctoral School Day, May 2016.

Mentoring:

<i>Current:</i>	Final Year Project student from Nanyang Technological University Post-doctoral fellow hired on I&E GAP fund.
<i>2023 – 2024:</i>	Final Year Project student from Singapore Polytechnique, 6 months
<i>2023:</i>	Bachelor student from Nanyang Technological University, 8 months Singapore Polytechnique student, 6 months A*STAR Research Internship Awardee, 2 months
<i>2022:</i>	Metcalf Fellowship student from University of Chicago, 3 months
<i>2019:</i>	Final Year Project student from Nanyang Technological University, 6 months

Other appointments:

- Member of the French Lab Singapore steering committee (initiative from the French Embassy in Singapore, French Chamber of Commerce and CNRS: <https://frenchlab.sg/>).
- Guest editor for a special issue “Antibody and humoral immunity research on SARS-CoV-2” in the open access journal Vaccines ([ISSN 2076-393X](https://doi.org/10.3390/vaccines2076393X)).

Volunteer Science outreach:

<i>2021 – Today:</i>	Leader of the A*STAR ID Labs Young Scientists committee. Collaboration with Queenstown Secondary School (A*STAR/MOE Scientists in School) Member of the ID Labs Creative team and organization of the ID Labs seminar series. STAR Ambassador: judge in science competitions and guest speaker in the A*STAR Webinar Series.
<i>2018 – 2021:</i>	Creation of the Pint of Science Festival in Singapore Leader of the A*STAR SigN Young Scientists committee
<i>March 2018:</i>	Talk at Seriously Science
<i>August 2017:</i>	Booth at the One-North festival
<i>May 2016:</i>	Talk at Pint of Science France