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## UNDINE

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## Executive Summary

This deliverable presents the list of dissemination activities for WP4 classified according to the target: For the general public and patients, we listed the oral and written. For the scientific and medical community, we reported the academics courses and meeting participations related to the UNDINE project. We also provided an overview of the publication efforts with open access.

## Abbreviations

D	Deliverable
EC	European Commission
WP	Work Package
WT	Work Task

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# 1 Dissemination activities to reach the general public and patients

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## **Social media and online communication:**

- Twitter/X account @casanova\_lab (PI) relays all information about UNDINE & the advancement of the project
- On the new website on Human Genetics of Infectious Diseases laboratory, we inform about UNDINE project (<https://www.hgid.org/collaborative-efforts/>), and we include a link to UNDINE-homepage
- On the UNDINE-homepage, we inform about UNDINE project, including recent outreach and dissemination activities (<https://www.undine.au.dk>).

## **Written communications:**

French Institutional Press Offices (Inserm and Institut Imagine) regularly release updates on the progress of UNDINE related projects, aimed at the general public:

- 10/02/2022 Aarhus University News reports about the new UNDINE project: "Major grant: Aarhus helping to answer the big coronavirus questions" (<https://health.au.dk/en/display/artikel/millionbevilling-aarhus-skal-vaere-med-til-at-besvare-de-store-corona-spoergsmaal>)
- 15/06/2022 <https://presse.inserm.fr/covid-19-un-deficit-immunologique-expliquerait-pres-dun-quart-des-tres-rares-formes-severes-observees-chez-les-vaccines/45433/>
- 09/09/2022 <https://www.aphp.fr/contenu/dilemme-cytokinique-virus-contre-inflammation>
- 17/01/2023 <https://u-paris.fr/covid-19-des-defaults-genetiques-responsables-du-syndrome-inflammatoire-multi-systemique-de-lenfant/>
- 17/01/2023 <https://www.aphp.fr/contenu/covid-19-des-defaults-genetiques-responsables-du-syndrome-inflammatoire-multi-systemique-de>
- 18/01/2023 <https://presse.inserm.fr/covid-19-des-defaults-genetiques-responsables-du-syndrome-inflammatoire-multi-systemique-de-lenfant/46337/>
- 26/07/2023 <https://www.institutimagine.org/fr/les-auto-anticorps-contre-les-interferons-ou-pourquoi-certains-virus-nous-affectent-differemment>
- 05/12/2023 <https://www.institutimagine.org/fr/un-nouveau-groupe-de-maladies-genetiques-explique-la-production-dautoanticorps-contre-les-1623>
- 06/12/2023 <https://u-paris.fr/un-nouveau-groupe-de-maladies-genetiques-expliquent-la-predisposition-a-des-maladies-virales-severes/>
- 06/12/2023 <https://www.aphp.fr/contenu/un-nouveau-groupe-de-maladies-genetiques-expliquent-la-predisposition-des-maladies-virales>
- 05/01/2024 <https://www.institutimagine.org/fr/les-auto-anticorps-anti-ifn-de-type-i-detectes-et-operants-des-lenfance-1635>

## **Interviews and press releases in various media:**

- 17/11/2023 Trine Mogensen reported in an article for the Danish newspaper 'Berlingske' about the importance of the current COVID-19 research, highlighting the focus on the immense differences in individual susceptibilities to the disease. Prof. Mogensen emphasised the importance an understanding of the risk factors that predict a severe progression of an infection (<https://www.berlingske.dk/samfund/ny-forskning-derfor-har-en-raekke-boern-og-unge-oeget-risiko-for-at-doe-af>)
- Nov 2023 Trine Mogensen reported to the Danish parliament. She presented the objectives, results, and visions of UNDINE and also discussed different European strategies for 1) susceptible individuals offered COVID-19 vaccination and 2) public health strategies for examination and management of individuals with Long-COVID-19.

**Public lectures:**

- Trine Mogensen gave a lecture for Folkeuniversitetet (Danish community college) with the topic: “The immune system and how it works and fights viral infections”, March 5<sup>th</sup>, 2024.

## 2 Dissemination activities to reach the scientific and medical community

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### ***Overview of conferences in which Immunological and genetic bases of COVID-19 were presented:***

#### 2022:

1. Jean-Laurent Casanova. 17th Annual Symposium on Primary Immunodeficiency Diseases, Foundation for Primary Immunodeficiency Diseases, Newport Beach, CA, USA, November 2022
2. Jean-Laurent Casanova. Plenary Lecture, Joint Congress: International Immunocompromised Host Society 22<sup>nd</sup> Symposium, Annual Congress Swiss Society for Allergology and Immunology (H Hirsch, M Recher), Congress Center Basel, Switzerland, September 2022
3. Jean-Laurent Casanova. Philip I. Marcus Memorial Lecture, Philip I. Marcus Symposium: Interferons and antiviral immunity, Cytokines 2022 (Mary Ann Liebert, Inc. Publishers), Big Island, HI, USA (virtual), September 2022

#### 2023:

4. Jean-Laurent Casanova. 30<sup>th</sup> Annual Meeting of the Henry Kunkel Society: Innate Immunity: From Basic Biology to Human Disease, The Rockefeller University, New York, NY, USA, April 2023
5. Jean-Laurent Casanova. 2<sup>nd</sup> International Symposium on Inborn Errors of Immunity in the Northern Atlantic, Tórshavn, Faroe Islands, June 2023
6. Jean-Laurent Casanova. 18th Annual Symposium on Primary Immunodeficiency Diseases (S Gupta, JL Casanova), Foundation for Primary Immunodeficiency Diseases, Newport Beach, CA, USA, November 2023
7. Jean-Laurent Casanova. Distinguished Lectures in Genetics Seminar Series, Division of Human Genetics, Cincinnati Children’s Hospital (S Waggoner), Cincinnati, OH, USA, February 2023
8. Jean-Laurent Casanova. Distinguished Seminar (K Hisert), National Jewish Health, Denver, CO, USA, March 2023
9. Jean-Laurent Casanova. Inaugural Speaker, Robert W. Finberg, MD Memorial Lecture: Pandemics, Plagues and Viruses (K Fitzgerald, D Golenbock), University of Massachusetts Chan Medical School, Worcester, MA, USA, March 2023
10. Jean-Laurent Casanova. Distinguished Faculty Lectureship in Infectious Diseases (J Coburn), Medical College of Wisconsin, Milwaukee, WI, USA, April 2023
11. Jean-Laurent Casanova. Sidney Leskowitz Memorial Lecture (A Poltorak), Tufts University Medical School, Boston, MA, USA, April 2023
12. Jean-Laurent Casanova. Founders Lecture, Latin American Society for Immunodeficiencies (LASID) 2023 Meeting (G Segundo, A Alvarez), Mexico City, Mexico, October 2023
13. Giuseppe Novelli. Difetti congeniti dell’immunità e determinanti comuni dell’infezione virale. Meeting on respiratory viruses in post-pandemic times, Lecce, Italy, December 2023

2024:

14. Jean-Laurent Casanova. Keynote Lecture, 2<sup>nd</sup> Fenglin International Clinical Immunology Forum (X Wang, JL Casanova), Children's Hospital of Fudan University, Shanghai, China, March 2024
15. Jean-Laurent Casanova. Keynote Lecture, 2024 Formasa Translational Immunology Symposium (CL Ku, MD Kuo), Linkou Chang Gung Memorial Hospital, Taoyuan, Taiwan, March 2024
16. Jean-Laurent Casanova. 2nd Fenglin International Clinical Immunology Forum (X Wang, JL Casanova), Children's Hospital of Fudan University, Shanghai, China, March 2024
17. Jean-Laurent Casanova. 31th Annual Meeting of the Henry Kunkel Society: Innate Immunity: From Basic Biology to Human Disease, The Rockefeller University, New York, NY, USA, April 2024
18. Giuseppe Novelli. Immunological and Genetic Predisposition To Infectious Diseases, Human Genome Meeting (HUGO) 2024, Rome, Italy, April 2024

**Overview of UNDINE's publication efforts with open access**

1. Casanova JL, Abel L. From rare disorders of immunity to common determinants of infection: Following the mechanistic thread. *Cell*. 2022. 185: 3086-103
2. Lee D, et al. Inborn errors of OAS-RNase L in SARS-CoV-2-related multisystem inflammatory syndrome in children. *Science*. 2023. 379(6632):eabo3627.
3. Mathian A, et al. Lower disease activity but higher risk of severe COVID-19 and herpes zoster in patients with systemic lupus erythematosus with pre-existing autoantibodies neutralising IFN- $\alpha$ . *Ann Rheum Dis* 2022. 81: 1695-703
4. Matuozzo D, et al. Rare predicted loss-of-function variants of type I IFN immunity genes are associated with life-threatening COVID-19. *Genome Med*. 2023;15(1):22.
5. Zhang Q, et al. Recessive inborn errors of type I IFN immunity in children with COVID-19 pneumonia. *J Exp Med* 2022. 219
6. Zhang Q, et al. Autoantibodies against type I IFNs in patients with critical influenza pneumonia. *J Exp Med*. 2022. 219(11):e20220514.
7. Sokal A, et al. Human type I IFN deficiency does not impair B cell response to SARS-CoV-2 mRNA vaccination. *J Exp Med*. 2023. 220(1):e20220258.
8. Cobat A, et al. Human Genomics of COVID-19 Pneumonia: Contributions of Rare and Common Variants. *Annu Rev Biomed Data Sci*. 2023. 6:465-486.
9. Philippot Q, et al. Autoantibodies Neutralizing Type I IFNs in the Bronchoalveolar Lavage of at Least 10% of Patients During Life-Threatening COVID-19 Pneumonia. *J Clin Immunol*. 2023. 43(6):1093-1103.
10. Bucciol G, et al. Human inherited complete STAT2 deficiency underlies inflammatory viral diseases. *J Clin Invest*. 2023. 133(12):e168321.
11. Bastard P, et al. Human autoantibodies neutralizing type I IFNs: From 1981 to 2023. *Immunol Rev*. 2024. 322(1):98-112.
12. Bastard P, et al. Higher COVID-19 pneumonia risk associated with anti-IFN- $\alpha$  than with anti-IFN- $\omega$  auto-Abs in children. *J Exp Med*. 2024. 221(2):e20231353.
13. Biancolella M, Colona VL, Luzzatto L, ... Novelli G, Reichardt JKV. COVID-19 annual update: a narrative review *Hum Genomics*. 2023 Jul 24;17(1):68.
14. Latini A, De Benedittis G, Colafrancesco S, ... Novelli G, ... Borgiani P. PCSK3 Overexpression in Sjögren's Syndrome Patients May Be Regulated by rs4932178 SNP in Its Promoter Region and Correlates with IFN- $\gamma$  Gene Expression. *Genes (Basel)*. 2023 Apr 26;14(5):981.
15. Vanker M, Särekannu K, Fekkar A, ... Zhang SY, Mogensen TH, ... Casanova JL, Kisand K. Autoantibodies Neutralizing Type III Interferons Are Uncommon in Patients with Severe Coronavirus Disease 2019 Pneumonia. *J Interferon Cytokine Res*. 2023 May 29.
16. Su HC, Jing H, Zhang Y, Casanova JL. Interfering with Interferons: A Critical Mechanism for Critical COVID-19 Pneumonia. *Annu Rev Immunol*. 2023; 41:561-585.
17. Aquino Y, Bisiaux A, Li Z, ... Abel L, Casanova JL, V ... Quintana-Murci L. Dissecting human population variation in single-cell responses to SARS-CoV-2. *Nature*. 2023 Aug 9.

18. Philippot Q, Fekkar A, Gervais A ... Casanova JL, Puel A. Autoantibodies Neutralizing Type I IFNs in the Bronchoalveolar Lavage of at Least 10% of Patients During Life-Threatening COVID-19 Pneumonia. *J Clin Immunol.* 2023 May; 20:1–11.
19. Garcia-Carcia A, Perez-DeDiego R, Flores C, ... Meyts I, ... Casanova J-L, ... et al. Humans with inherited MyD88 and IRAK-4 deficiencies are predisposed to hypoxemic COVID-19 pneumonia. *Exp Med.* 2023 May 1; 220(5):e20220170.