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## UNDINE

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## Executive Summary

The deliverable presents the list of dissemination activities for WP3 for the general public and the scientific community. Whenever the concept of resistance to SARSCoV2 is raised, the public demonstrates considerable interest; they regularly come forward with anecdotal stories of apparent resistance in their family or amongst their friends and colleagues. One overall aim of this part of WP3 is to harness this interest, with a view to achieving two objectives:

- a. Informing politicians and the public of the research aims and methods of the UNDINE EU consortium and the relevance of its discoveries to future pandemics, and
- b. to recruit families with at least one person with demonstrable resistance and several who became infected with a view to performing familial studies.

The second overall aim is to communicate with the scientific community, our research approaches, technologies, and the progress of the UNDINE-project.

## Abbreviations

D	Deliverable
EC	European Commission
WP	Work Package
WT	Work Task

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# 1 List of dissemination activities

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## 1.1 PUBLIC-FACING ACTIVITIES

### Press releases

The Guardian (March 2022)

Scientists seek to solve mystery of why some people do not catch Covid

<https://www.theguardian.com/world/2022/mar/02/scientists-seek-to-solve-mystery-of-why-some-people-do-not-catch-covid>

Washington Post (May 2022)

The lucky few to never get coronavirus could teach us more about it

<https://www.washingtonpost.com/health/2022/05/08/study-never-get-covid/>

De Volkskrant (September 2022)

Nog steeds geen corone? Misschien bent u van nature immuun

<https://www.volkskrant.nl/nieuws-achtergrond/nog-steeds-geen-corona-misschien-bent-u-van-nature-immuun~bb4836b8/>

Trouw (December 2022)

De geluksvogels die nooit covid hebben gehad

<https://www.trouw.nl/zorg/de-geluksvogels-die-nooit-covid-hebben-gehad-hebben-dat-misschien-te-danken-aan-hun-dna~b61777e5/?referrer=https://www.google.com/>

NBC News (March 2023)

What people with 'super immunity' can teach us about Covid and other viruses

<https://www.nbcnews.com/health/health-news/are-immune-covid-science-trying-unravel-immunity-virus-rcna72885>

### Other public events and outlets

- *Wexford Science Café*  
Co-convenor with Andrew Lloyd of Carlow IT: monthly meetings on the third Tuesday of the month.
- *Viral Resistance Website*  
<https://www.viralresistanceproject.com/#top>
- *EU Researchers Night*  
European Researcher's night 13<sup>th</sup> September 2023 – Trinity college series talk titled "Our immune system – what has Covid taught us and what can we do strengthen our immunity?" – Shared with residents living in the area near TCD some of the challenges and the strategies used to study COVID19 in the lab.
- *Anti-D Annual Conference 2024*
- *Pint of Science*  
A public talk in The Lighthouse in Dublin entitled 'The Search for SARS-COV2 resistors' was given by postdoctoral researcher Cian Reid, detailing the identification of individuals resistant to SARS-CoV2 among health care workers and nursing home residents. The research to date on type I interferons in SARS-CoV2 infection was also explained, as well their potential role in resistance.

- *Kiltiernan National School*  
“Good bugs, bad bugs”: Demonstration and game involving 4th, 5th and 6th classes (and their teachers) at Kiltiernan Primary School for Science Week.
- *TCD TAP students*

## 1.2 SCIENTIFIC COMMUNICATIONS

### Research seminars

- Immunology Research Forum, Trinity College Dublin, Ireland, September 2023
- Washington University at St. Louis (December 2023)  
**Inborn errors of human anti-staphylococcal immunity: *Lessons learned***
- DartBac Symposium (April 2024)  
**Inborn errors of human anti-staphylococcal immunity: *Towards precision medicine***

### International conferences

- Cytokines, 11<sup>th</sup> Annual Meeting, Athens, Greece, October 2023
- British Society in Immunology Congress, Belfast, December 2023
- Sex Differences in the Immune system, Dublin, Ireland, June 2024
- European Congress in Immunology, Dublin, Ireland. September 2024

### Publications

Protocol for the Tallaght University Hospital Institute for Memory and Cognition-Biobank for Research in Ageing and Neurodegeneration. *Dyer AH, Dolphin H, O'Connor A, Morrison L, Sedgwick G, McFeely A, Killeen E, Gallagher C, Davey N, Connolly E, Lyons S, Young C, Gaffney C, Ennis R, McHale C, Joseph J, Knight G, Kelly E, O'Farrelly C, Bourke NM, Fallon A, O'Dowd S, Kennelly SP. BMJ Open. 2023 Dec 9;13(12):e077772. doi: 10.1136/bmjopen-2023-077772. PMID: 38070888; PMCID: PMC10729202.*

Long-term in vivo vitamin D<sub>3</sub> supplementation modulates bovine IL-1 and chemokine responses. *Reid C, Flores-Villalva S, Remot A, Kennedy E, O'Farrelly C, Meade KG. Sci Rep. 2023 Jul 5;13(1):10846. doi: 10.1038/s41598-023-37427-z. PMID: 37407588; PMCID: PMC10322979.*

Defective activation and regulation of type I interferon immunity is associated with increasing COVID-19 severity. *Smith N, Possémé C, Bondet V, Sugrue J, Townsend L, Charbit B, Rouilly V, Saint-André V, Dott T, Pozo AR, Yatim N, Schwartz O, Cervantes-Gonzalez M, Ghosn J, Bastard P, Casanova JL, Szwebel TA, Terrier B, Conlon N, O'Farrelly C, Cheallaigh CN, Bourke NM, Duffy D. Nat Commun. 2022 Nov 25;13(1):7254. doi: 10.1038/s41467-022-34895-1. PMID: 36434007; PMCID: PMC9700809.*

Enhanced TLR3 responsiveness in hepatitis C virus resistant women from the Irish anti-D cohort. *Sugrue JA, Posseme C, Tan Z, Pou C, Charbit B, Bondet V, Bourke NM, Brodin P, Duffy D, O'Farrelly C. Cell Rep Med. 2022 Nov 15;3(11):100804. doi: 10.1016/j.xcrm.2022.100804. Epub 2022 Nov 4. PMID: 36334594; PMCID: PMC9729829.*

Evolutionary selection identifies critical immune-relevant genes in lung cancer subtypes. *Luddy KA, Teer JK, Freischel A, O'Farrelly C, Gatenby R. Front Genet. 2022 Aug 24;13:921447. doi: 10.3389/fgene.2022.921447. PMID: 36092893; PMCID: PMC9451599.*

Managing the Impact of COVID-19 in Nursing Homes and Long-Term Care Facilities: An Update. *Dyer AH, Fallon A, Noonan C, Dolphin H, O'Farrelly C, Bourke NM, O'Neill D, Kennelly SP. J Am Med Dir Assoc. 2022 Sep;23(9):1590-1602. doi: 10.1016/j.jamda.2022.06.028. Epub 2022 Jul 4. PMID: 35922016; PMCID: PMC9250924.*

Human Hepatic CD56<sup>bright</sup> NK Cells Display a Tissue-Resident Transcriptional Profile and Enhanced Ability to Kill Allogenic CD8<sup>+</sup> T Cells. *Jameson G, Harmon C, Santiago RM, Houlihan DD, Gallagher TK, Lynch L, Robinson MW, O'Farrelly C. Front Immunol. 2022 Jul 5;13:921212. doi: 10.3389/fimmu.2022.921212. PMID: 35865550; PMCID: PMC9295839.*

A preliminary analysis of the variation in circulating 25-hydroxycholecalciferol concentrations in peri-partum spring-calving dairy cows. *Ryan NJ, Brewer A, Chapwanya A, O'Farrelly C, Williams EJ, Evans ACO, Beltman ME, Meade KG. Vet Res Commun. 2023 Jan;47(1):311-318. doi: 10.1007/s11259-022-09946-z. Epub 2022 Jul 5. PMID: 35789319; PMCID: PMC9873693.*

Early IFN $\beta$  secretion determines variable downstream IL-12p70 responses upon TLR4 activation. *Posseme C, Llibre A, Charbit B, Bondet V, Rouilly V, Saint-André V, Boussier J, Bergstedt J, Smith N, Townsend L, Sugrue JA, Ní Cheallaigh C, Conlon N, Rotival M, Kobor MS, Mottez E, Pol S, Patin E, Albert ML, Quintana-Murci L, Duffy D; Milieu Intérieur Consortium. Cell Rep. 2022 Jun 28;39(13):110989. doi: 10.1016/j.celrep.2022.110989. PMID: 35767946; PMCID: PMC9237956.*

Rhesus negative males have an enhanced IFN $\gamma$ -mediated immune response to influenza A virus. *Sugrue JA, Smith M, Posseme C, Charbit B; Milieu Interieur Consortium; Bourke NM, Duffy D, O'Farrelly C. Genes Immun. 2022 Apr;23(2):93-98. doi: 10.1038/s41435-022-00169-5. Epub 2022 Apr 15. PMID: 35428875; PMCID: PMC9012157.*

Severe COVID-19 is characterised by inflammation and immature myeloid cells early in disease progression. *Townsend L, Dyer AH, Naughton A, Imangaliyev S, Dunne J, Kiersey R, Holden D, Mooney A, Leavy D, Ridge K, Sugrue J, Aldoseri M, Kelliher JH, Hennessy M, Byrne D, Browne P, Bacon CL, Doyle C, O'Riordan R, McLaughlin AM, Bannan C, Martin-Loeches I, White A, McLoughlin RM, Bergin C, Bourke NM, O'Farrelly C, Conlon N, Cheallaigh CN; STAR COVID Bioresource. Heliyon. 2022 Apr;8(4):e09230. doi: 10.1016/j.heliyon.2022.e09230. Epub 2022 Apr 1. PMID: 35386227; PMCID: PMC8973020.*

Previous SARS-CoV-2 Infection, Age, and Frailty Are Associated With 6-Month Vaccine-Induced Anti-Spike Antibody Titer in Nursing Home Residents. *Dyer AH, Noonan C, McElheron M, Batten I, Reddy C, Connolly E, Pierpoint R, Murray C, Leonard A, Higgins C, Reilly P, Boran G, Phelan T, McCormack W, O'Neill D, Fallon A, Brady G, O'Farrelly C, Bourke NM, Kennelly SP. J Am Med Dir Assoc. 2022 Mar;23(3):434-439. doi: 10.1016/j.jamda.2021.12.001. Epub 2022 Jan 11. PMID: 35219507; PMCID: PMC8748020.*

NRF2 assessment in discarded liver allografts: A role in allograft function and salvage. *Ahmed O, Xu M, Zhou F, Wein AN, Upadhyaya GA, Ye L, Wong BW, Lin Y, O'Farrelly C, Chapman WC. Am J Transplant. 2022 Jan;22(1):58-70. doi: 10.1111/ajt.16789. Epub 2021 Aug 26. PMID: 34379880.*

**Reviews**

Innate antiviral immunity and immunometabolism in hepatocytes. *Sularea VM, Sugrue JA, O'Farrelly C. Curr Opin Immunol. 2023 Feb;80:102267. doi: 10.1016/j.coi.2022.102267. Epub 2022 Nov 30. PMID: 36462263.*

Uncovering Resistance to Hepatitis C Virus Infection: Scientific Contributions and Unanswered Questions in the Irish Anti-D Cohort. *Sugrue JA, O'Farrelly C. Pathogens. 2022 Feb 28;11(3):306. doi: 10.3390/pathogens11030306. PMID: 35335630; PMCID: PMC8953313.*

Liver Immunology, Immunotherapy, and Liver Cancers: Time for a Rethink? *Carroll HK, Duffy AG, O'Farrelly C. Semin Liver Dis. 2022 May;42(2):212-224. doi: 10.1055/s-0042-1744143. Epub 2022 Mar 9. PMID: 35263795.*

A global effort to dissect the human genetic basis of resistance to SARS-CoV-2 infection. *Andreakos E, Abel L, Vinh DC, Kaja E, Drolet BA, Zhang Q, O'Farrelly C, Novelli G, Rodríguez-Gallego C, Haerynck F, Prando C, Pujol A; COVID Human Genetic Effort; Su HC, Casanova JL, Spaan AN. Nat Immunol. 2022 Feb;23(2):159-164. doi: 10.1038/s41590-021-01030-z. Epub 2021 Oct 18. Erratum in: Nat Immunol. 2021 Nov 24;: PMID: 34667308; PMCID: PMC8524403.*