

KRISTINE OLEINIK, PHD

CAREER

- 2021- **Postdoctoral Research Fellow**
Boston Children's Hospital, Harvard Medical School | Laboratory of Professor Michael Carroll
- 2018- **Postdoctoral Research Fellow**
University College London (UCL) | Laboratory of Professor Claudia Mauri
- Investigating how reprogramming regulatory B cell metabolism can modulate their function in the context of immune-mediated pathology
 - Elucidating how neutrophil extracellular traps may contribute to autoantibody production in patients with systemic lupus erythematosus
 - Uncovering the contribution of aryl hydrocarbon receptor to the transcriptional program of regulatory B cells
- 2022- **Assistant Professor** | Riga Stradins University (RSU)
- 2020- **Lead Researcher** | Riga Stradins University (RSU)
- Dissecting non-transformed B cell responses in chronic lymphocytic leukaemia and multiple myeloma (Lead Researcher, 300'000 EUR awarded, Lavian Council of Science)
 - Uncovering the impact of weight loss on obesity-induced changes in B cell metabolism and function (Lead Researcher, 100'389 EUR awarded, Lavian Council of Science)
 - Dissecting the interplay between intestinal dysbiosis and B cell function in the pathogenesis of immunoglobulin A nephropathy (Lead Researcher, 299'798 EUR awarded, Lavian Council of Science)
- 2018- **Visiting Assistant Professor** | Faculty of Medicine, RSU
- 2019 Delivering immunology lectures to medical students and supporting the faculty in developing the curriculum in immunology
- 2011 **Researcher** | Nuffield Foundation Undergraduate Research Scholarship, University of Glasgow | Laboratory of Professor Gerard Graham
- Investigated the role of CCR10 in danger signal-induced neutrophil migration
- 2010 **Researcher** | University of Glasgow Research Scholarship, Latvian Institute of Organic Synthesis | Laboratory of Professor Maija Dambrova
- Examined how modulating L-carnitine homeostasis affects metabolic states and cardiovascular function
- 2009 **Researcher** | University of Glasgow Research Scholarship, Latvian Institute of Organic Synthesis | Laboratory of Professor Maija Dambrova
- Developed a flow cytometry-based method to determine intracellular glyoxalase-1 activity associated

EDUCATION

- with late diabetes mellitus complications
- 2012- **PhD in Immunology** | UCL
- 2017 Medical Research Council Studentship, supervised by Professor Claudia Mauri
Thesis title: The role of CD1d-mediated lipid presentation by regulatory B cells in invariant natural killer T cell suppression of autoimmunity
- Demonstrated how B cells modulate the phenotype and function of invariant natural killer T cells through CD1d
 - Investigated how the intestinal microbiota modulates regulatory B cell development and function in the context of autoimmunity
 - Studied the molecular mechanisms by which T-bet regulates Th1 cell differentiation (with Professor Richard Jenner)
- 2008- **BSc in Immunology with Honours of the First Class** | University of Glasgow
- 2012 Dissertation title: Regulation of macrophage function by CX3CL1, supervised by Professor Allan Mowat,

PUBLICATIONS

- Recipient of the British Society for Immunology Undergraduate Prize
1. Slisere B, Arisova M, Aizbalte O, Salmiņa M M, Zolovs M, Levenšteins M, Mukāns M, Troickis I, L Meija L, Lejnieks A, Bilande G, Rosser E C, **K Oļeiņika (corresponding)**. Distinct B cell profiles characterise healthy weight and obesity pre- and post-bariatric surgery. *Submitted*.

2. **Oleinika K**, Slisere B, Catalan D, Rosser EC. B cell contribution to immunometabolic dysfunction and impaired immune responses in obesity. *Clin Exp Immunol.* 2022, DOI: 10.1093/cei/uxac079
3. Catalán D, Mansilla MA, Ferrier A, Soto L, **Oleinika K**, Aguillón JC, Aravena O. Immunosuppressive Mechanisms of Regulatory B Cells. *Frontiers in Immunology* 2021,12:611795, DOI: 10.3389/fimmu.2021.611795
4. Piper CJM, Rosser EC, **Oleinika K**, Nistala K, Krausgruber T, Rendeiro AF, Banos A, Drozdov I, Villa M, Thomson S, Xanthou G, Bock C, Stockinger B, Mauri C. Aryl hydrocarbon receptor contributes to the transcriptional programme of IL-10-producing regulatory B cells. *Cell Reports* 2019, 29(7):1878-1892.e7, DOI: 10.1016/j.celrep.2019.10.018
5. **Oleinika K**, Mauri C, Blair PA. B cells and Autoimmunity. *The Autoimmune Diseases*, 6th Edition 2019
6. **Oleinika K**, Mauri C, Salama AD. Effector and regulatory B cells in immune-mediated kidney disease. *Nature Reviews Nephrology* 2019, 15(1):11-26, DOI: 10.1038/s41581-018-0074-7
7. **Oleinika K**, Rosser EC, Matei DE, Nistala K, Bosma A, Drozdov I, Mauri C. CD1d-dependent immune suppression mediated by regulatory B cells through modulations of iNKT cells. *Nature Communications* 2018, 9(684), DOI: 10.1038/s41467-018-02911-y
8. Hertweck A, Evans CM, Eskandarpour M, Lau JC, **Oleinika K**, Jackson I, et al. T-bet Activates Th1 Genes through Mediator and the Super Elongation Complex. *Cell Reports* 2016, 15(12): 2756-2770, DOI: 10.1016/j.celrep.2016.05.054
9. Rosser EC, **Oleinika K**, Tonon S, Doyle R, Bosma A, Carter NA, et al. Regulatory B cells are induced by gut microbiota-driven interleukin-1 beta and interleukin-6 production. *Nature Medicine* 2014, 20(11): 1334-1339, DOI: 10.1038/nm.3680
10. **Oleinika K**, Nibbs RJ, Graham GJ, Fraser AR. Suppression, subversion and escape: the role of regulatory T cells in cancer progression. *Clinical and Experimental Immunology* 2013, 171(1): 36-45, DOI: 10.1111/j.1365-2249.2012.04657.x

SELECTED CONFERENCES

1. **Oleinika K** and Mauri C. (2019) B cells regulate inflammation through CD1d. CD1d/MR1: Beyond MHC-restricted lymphocytes, Oxford. **Invited speaker.**
2. **Oleinika K**, Bradford HF, Crichton S, Dempsey F, Isenberg DA, Mauri C. (2019) Understanding how targeting annexin A1 may control inflammation in systemic lupus erythematosus. RSU Research Week, Riga. **Invited speaker.**
3. **Oleinika K**, Rosser EC, Matei DE, Nistala K, Bosma A, Drozdov I, Mauri C. (2018) CD1d is critical for the IL-10-independent suppressive function of regulatory B cells. XII World Immune Regulation Meeting, Davos. **Oral presentation.**
4. **Oleinika K**, Rosser EC, Nistala K, Bosma A, Drozdov I, Mauri C. (2016) CD1d is critical for the effector function of regulatory B cells. BSI NVVI Congress, Liverpool. **Poster presentation.**
5. **Oleinika K**, Rosser EC, Nistala K, Bosma A, Mauri C. (2016) Regulatory B cells control inflammation through the induction of suppressive invariant natural killer T cells. Keystone Symposium B Cells at the Intersection of Innate and Adaptive Immunity, Stockholm. **Oral presentation.**
6. **Oleinika K**, Nistala K, Bosma A, Rosser EC, Mauri C. (2014) Cross-talk between regulatory B cells and invariant natural killer T cells. UCL Division of Infection and Immunity Colloquium, London. **Oral presentation.**

HONOURS AND AWARDS

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| 2020 | Scholarship to attend the EUREKA Institute for Translational Medicine 12 th International Certificate Program, Syracuse |
| 2020 | Scholarship to attend the 9 th IFRc and SIGn Winter School on Advanced Immunology, Osaka |
| 2018 | BSI Travel Award to attend XII World Immune Regulation Meeting, Davos |
| 2016 | UCL Doctoral School Travel Grant to attend Keystone Symposia Conference B Cells at the Intersection of Innate and Adaptive Immunity, Stockholm |
| 2015 | EMBO Travel Grant to attend Be There Or Die? The Role Of The Microenvironment In B Cell Behaviour In Health and Disease, Sant Feliu de Guixols |
| 2015 | Poster Prize, UCL Division of Infection and Immunity Colloquium |
| 2011 | Nuffield Foundation Undergraduate Research Scholarship |
| 2011 | The Roger and Sarah Bancroft Clark Charitable Trust Studentship |

- 2010 Acknowledgement of Contribution to Pharmacology Research, Latvian Institute of Organic Synthesis
2010 University of Glasgow Research Scholarship
2009 University of Glasgow Research Scholarship

TEACHING AND MENTORING

- 2022- Assistant Professor, Department of Internal Diseases, RSU
2018- Lecturer, Medical Microbiology and Immunology, 2nd Year medical students, RSU
2018- Personal Tutor, BSc Applied Medical Sciences, BSc Nutrition and Medical Sciences, MSc Clinical and Public Health Nutrition and MSc Eating Disorders and Clinical Nutrition students, UCL
2018- Lecturer, Autoimmune Disease and the Musculoskeletal System, Movement and Musculoskeletal Biology, 2nd Year MBBS students, UCL
2012- Co-supervisor of BSc, iBSc and MRes student laboratory placements, UCL
2017- Tutor, Infection and Defence, 1st Year MBBS students, UCL

COMMITTEES AND PROFESSIONAL SOCIETIES

- 2011- Member | British Society for Immunology