

## CURRICULUM VITAE

Dr. Mikolaj Ogrodnik

Ludwig Boltzmann Research Group - Senescence and Healing of Wounds

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## PERSONAL DATA

Date of birth: 05. May. 1989

Place of birth: Mikolow, Poland

Citizenship: Polish



## RESEARCH FOCUS

Cellular, molecular and organismal aging with specific focus on cellular senescence; Skin regeneration, pathology and healing of chronic wounds and burns; Keywords: aging, cellular senescence, wound healing, regeneration, skin aging, inflammation.

## EDUCATION

2014 – 2018 Newcastle University (Newcastle upon Tyne, UK) – **Doctor of Philosophy (PhD)**. Title: The impact of senescent cell clearance on mouse physiology and cognition in ageing and obesity. **Ogrodnik *et al.*, 2019 *Cell Metabolism***

2013 – 2014 Newcastle University (Newcastle upon Tyne, UK) – **MSc. Biosciences**. Title: Role of dietary interventions on liver senescence. **Ogrodnik *et al.*, 2017 *Nat. Communications***

2011 – 2013 University of Warsaw (Warsaw, Poland) – **MSc. Medical Biotechnology**. Dissertation title: Senescence induction in MCF-7 breast cancer cells with melatonin derivatives.

2008 – 2011 University of Wroclaw (Wroclaw, Poland) – **BSc. Biotechnology**. Dissertation title: Participation of mitochondria in aging of organisms and animal cells.

## ADDITIONAL RESEARCH EXPERIENCE

2010 Poznan University of Medical Sciences (Poznan, Poland) – **summery internship** (Aging)

2011 Leibnitz Institute for Age Research (Jena, Germany) – **summery internship** (Aging)

2012 Newcastle University (Newcastle upon Tyne, UK) - **ERASMUS internship** (Cell aging)

2013 Alexander Silberman Institute of Life Sciences (Jerusalem, Israel) - **summer internship** (Cell aging and proteostasis) **Ogrodnik *et al.*, 2014 *PNAS***

## PROFESSIONAL CAREER

2020 – Research Group Leader (Principal Investigator), Ludwig Boltzmann Research Group-Senescence and Healing of Wounds, Vienna, Austria

2018 – 2020 Research Fellow (Post-doc), Department of Physiology & Biomedical Engineering, Mayo Clinic, Rochester, US

## GRANTS

2019 – 2020 Glenn Foundation for Medical Research and the American Federation for Aging Research (AFAR); Funding: \$60k, **Targeting lipid metabolism to reduce pro-inflammatory phenotype and viability of senescent cells**

## SELECTED CAREER RELATED ACTIVITIES AND HONORS

- Member of the International Cell Senescence Association (ICSA) and the Austrian Cluster for Tissue Regeneration (ECTR).
- Participation in **Leading Researchers Program 2021** (organized by the Ludwig Boltzmann Gesellschaft Career Center)
- Recipient of **5 travel awards** and **4 scholarships**.
- Winning the runner-up **Nanolive Label-Free Lab award 2018**.
- **Fellowship from the Glenn Foundation for Medical Research and the American Federation for Aging Research (AFAR)** in 2019.
- **Award from the Advanced Imaging Center** for a successful proposal to perform research at Howard Hughes Medical Institute (HHMI) Janelia Research Campus (Ashburn, VA, US)
- Invited **referee for >10 scientific journals**, including Mechanisms of Aging and Development, Aging Cell, Current Molecular Medicine, PLOS One, Scientific Reports, Ageing Research Reviews, Organs on a chip, Journal of Radiation Research and Burns and Trauma.
- **Invited speaker at >10 international conferences**, including the “Intra- and Intercellular Mechanisms of Aging 2020” (Vancouver, Canada), “the International Cell Senescence Association 2018 conference” (Montreal, Canada), “the 2016 Senescence symposium” (London, UK) and the “2nd conference for Genetics of Aging and Longevity” (Sochi, Russia). In 2020 I gave two invited talks at online conferences: American Aging Association’s “AGE Goes Virtual” and American Federation for Aging Research’s “AFAR Grantee Conference – Virtual!”. In 2021 I gave an online talk at the “TERMIS-EU Lab Tour Webinar Series 2021”.

## MOST IMPORTANT PUBLICATIONS for this proposal (out of 24; h-factor<sub>scopus</sub> 17)

1. **Ogrodnik M**, Miwa S, Tchkonja T, Tiniakos D, Wilson C, Lahat A, Day C, Burt A, Palmer A, Anstee QM, Grellescheid SN, Mann D, Bird TG, Vermeij WP, Kirkland JL, Passos JF, von Zglinicki T and Jurk D. (2017) Cellular senescence drives age-dependent hepatic steatosis. **Nature Communications**. doi: 10.1038/ncomms15691.
2. **Ogrodnik M**, Zhu Y, Prata L, Tchkonja T, Krüger P, Fielder E, Giorgadze N, Pirtskhalava T, Johnson KO, Xu M, Inman C, Schafer M, Weigl M, Ikeno Y, Burns TC, Passos JF, Kirkland JL, & Jurk D. (2019) Obesity-Induced Cellular Senescence Drives Anxiety And Impairs Neurogenesis **Cell Metabolism** doi: 10.1016/j.cmet.2018.12.008
3. da Silva\* PFL, **Ogrodnik\* M**, Kucheryavenko\* O, Glibert J1, Miwa S, Cameron K, Ishaq A, Saretzki G, Nagaraja-Grellescheid S, Nelson G, von Zglinicki T. (2019). The bystander effect contributes to the accumulation of senescent cells in vivo. **Aging Cell**. doi:10.1111/accel.12848.

\* co-shared first authors

4. **Ogrodnik M**, Evans SA, Fielder E, Victorelli S, Kruger P, Salmonowicz H, Weigand BM, Patel AD, Pirtskhalava T, Inman CL, Johnson KO, Dickinson SL, Rocha A, Schafer MJ, Zhu Y, Allison DB, von Zglinicki T, LeBrasseur NK, Tchkonina T, Naretti N, Passos JF, Kirkland JL, Jurk D. (2021) Whole-Body Senescent Cell Clearance Alleviates Age-Related Brain Inflammation and Cognitive Impairment in mice. *Aging Cell*. doi: 10.1111/acel.13296
5. **Ogrodnik\* M**, Salmonowicz H, and Gladyshev\* V.N. (2019). Integrating cellular senescence with the concept of damage accumulation in aging: Relevance for clearance of senescent cells. *Aging Cell*, doi: 10.1111/acel.12841.  
\* co-shared corresponding authors
6. **Ogrodnik\* M**, Salmonowicz H, Jurk D, Passos\* J.F. (2019). Expansion and Cell-Cycle Arrest: Common Denominators of Cellular Senescence. *Trends in Biochemical Sciences*, doi: 10.1016/j.tibs.2019.06.011.  
\* co-shared corresponding authors
7. **Ogrodnik\* M**. (2021). Cellular aging beyond cellular senescence: Markers of senescence prior to cell cycle arrest in vitro and in vivo. *Aging Cell*, doi: 10.1111/acel.13338  
\* corresponding author
8. Xu M, Tchkonina T, Ding H, **Ogrodnik M**, Lubbers ER, Pirtskhalava T, White TA, Johnson KO, Stout MB, Mezera V, Giorgadze N, Jensen MD, LeBrasseur NK, Kirkland JL. (2015). JAK inhibition alleviates the cellular senescence-associated secretory phenotype and frailty in old age. *Proc Natl Acad Sci U S A*. doi: 10.1073/pnas.1515386112.
9. Victorelli, S., Lagnado, A., Halim, J., Moore, W., Talbot, D., Barrett, K., Chapman J, Birch J, **Ogrodnik M**, Meves A, Pawlikowski JS, Jurk D, Adams PD, van Heemst D, Beekman M, Slagboom EP, Gunn DA, Passos JF (2019). Senescent human melanocytes drive skin ageing via paracrine telomere dysfunction. *The EMBO journal*, 38(23), doi: 10.15252/embj.2019101982
10. Xu M, Pirtskhalava T, Farr JN, Weigand BM, Palmer AK, Weivoda MM, Inman CL, **Ogrodnik MB**, Hachfeld CM, Fraser DG, Onken JL, Johnson KO, Verzosa GC, Langhi LGP, Weigl M, Giorgadze N, LeBrasseur NK, Miller JD, Jurk D, Singh RJ, Allison DB, Ejima K, Hubbard GB, Ikeno Y, Cubro H, Garovic VD, Hou X, Weroha SJ, Robbins PD, Niedernhofer LJ, Khosla S, Tchkonina T, Kirkland JL. (2018) Senolytics improve physical function and increase lifespan in old age. *Nature Medicine*. doi: 10.1038/s41591-018-0092-9.