

FICAN North

Report on cancer research activities 2021

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## 1. Background

FICAN North generated a strategy for cancer research at PPSHP and University of Oulu for 2021-23. As a part of the strategy, yearly report on cancer research activities was established. This is the first yearly report on cancer research covering the year of 2021.

Oulu 5.1.2022,

Jussi Koivunen, director of FICAN North

## 2. Bibliometrics 2021

Bibliography search on PubMed was carried out by FICAN North on 4.1.2022 with keywords “cancer” OR “lymphoma” OR “leukemia” AND “Oulu” and publication year was restricted to 2021. After the search, all the abstracts were reviewed by FICAN North and non-cancer related publications were removed.

- Publications: n=172 (2017-19 n=117/y)
- Mean Impact Factor 6.509 (2017-19 5.82)
- Highest Impact publications (top 5)
  1. Genetic variation in cervical preinvasive and invasive disease: a genome-wide association study. *Lancet Oncol.* 2021 Apr;22(4):548-557. doi: 10.1016/S1470-2045(21)00028-0. IF=41,364
  2. Maternal health, in-utero, and perinatal exposures and risk of thyroid cancer in offspring: a Nordic population-based nested case-control study. *Lancet Diabetes Endocrinol.* 2021 Feb;9(2):94-105. doi: 10.1016/S2213-8587(20)30399-5. Epub 2020 Dec 18. IF=32,069
  3. Bone mineral density surveillance for childhood, adolescent, and young adult cancer survivors: evidence-based recommendations from the International Late Effects of Childhood Cancer Guideline Harmonization Group. *Lancet Diabetes Endocrinol.* 2021 Sep;9(9):622-637. doi: 10.1016/S2213-8587(21)00173-X. Epub 2021 Jul 30. IF=32,069
  4. Association of Antiparietal Cell and Anti-Intrinsic Factor Antibodies With Risk of Gastric Cancer. *JAMA Oncol.* 2021 Dec 16. doi: 10.1001/jamaoncol.2021.5395. Online ahead of print. IF=32,069
  5. Cancer Incidence, Mortality, Years of Life Lost, Years Lived With Disability, and Disability-Adjusted Life Years for 29 Cancer Groups From 2010 to 2019: A Systematic Analysis for the Global Burden of Disease Study 2019. *JAMA Oncol.* 2021 Dec 30. doi: 10.1001/jamaoncol.2021.6987. Online ahead of print. IF=32,069
- Publications with the first or last author with Oulu Affiliation
  1. First and last author with Oulu Affiliation (n=45, 27%)
  2. First and/or last author with Oulu Affiliation (n=75, 44%)
- The Highest impact publications with the first or last author with Oulu Affiliation (top 5)
  1. **Väyrynen JP:** Prognostic significance of myeloid immune cells and their spatial distribution in the colorectal cancer microenvironment. *J Immunother Cancer.* 2021 Apr;9(4):e002297. doi: 10.1136/jitc-2020-002297. IF=13,751
  2. **Kaipiainen E, Eklund L e.g.:** The Amino-Terminal Oligomerization Domain of Angiopoietin-2 Affects Vascular Remodeling, Mammary Gland Tumor Growth, and Lung Metastasis in Mice. *Cancer Res.* 2021 Jan 1;81(1):129-143. doi: 10.1158/0008-5472.CAN-19-1904. Epub 2020 Oct 9. IF=12,701
  3. **Väyrynen SA:** Composition, Spatial Characteristics, and Prognostic Significance of Myeloid Cell Infiltration in Pancreatic Cancer. *Clin Cancer Res.* 2021 Feb 15;27(4):1069-1081. doi: 10.1158/1078-0432.CCR-20-3141. Epub 2020 Dec 1. IF=12,573
  4. **Mantere T:** Optical genome mapping enables constitutional chromosomal aberration detection *Am J Hum Genet.* 2021 Aug 5;108(8):1409-1422. doi: 10.1016/j.ajhg.2021.05.012. Epub 2021 Jul 7. IF=10,502

5. **Koivuluoma S, Pylkäs K e.g.:** Exome sequencing identifies a recurrent variant in SERPINA3 associating with hereditary susceptibility to breast cancer. *Eur J Cancer*. 2021 Jan;143:46-51. doi: 10.1016/j.ejca.2020.10.033. Epub 2020 Dec 3. IF=9,162
- The highest number of publications (top 5)
    1. **Salo T**, n=23
    2. **Väyrynen JP**, n=14
    3. **Kauppila JH**, n=9
    4. **Wei GH, Huhta H**, n=7
    5. **Koivunen JP**, n=6

## 2. Ph.D Thesis 2021

The University of Oulu databases for Ph.D dissertation were reviewed by FICAN North on 4.1.2022. All dissertation titles with keyword of “cancer” were included.

- Ph.D thesis in the field of cancer: n=9, (2017-19, n=10/v)
  - Nikolaos Giannareas, Juho Lakkala, Minna Nortunen, Susanna Tokola, Janne Väisänen, Valtteri Kairaluoma, Miro-Pekka Jussila, Elisa Mäkäräinen, Nelli Roininen

## 3. RAE evaluation

2020 University of Oulu underwent Research Assessment Exercise (RAE) evaluation. The purpose of RAE2020 is to reveal and confirm the quality and impact of research, confirm the functional structures of research units for scientific research, assist in recognizing future research prospects and support scientific renewal at University of Oulu.

FICAN North reviewed the final RAE report on 4.1.2022.

Of the units participating in the evaluation and being at least partly involved in cancer research, five units scored overall rating of excellent (5) or outstanding (6).

- ECM and Hypoxia (ECMH), Faculty of Biochemistry and Molecular Medicine, overall rating 6
- Cancer Research and Translational Medicine Research Unit (CancerTransMed), overall rating 5
- Disease Networks (DisNetworks), Faculty of Biochemistry and Molecular Medicine, overall rating 5
- Research Unit of Medical Imaging, Physics and Technology (MIPT), Faculty of Medicine, overall rating 5
- ELITE (ELITE), Faculty of Medicine, overall rating 5

#### 4. External Research Funding for Cancer Research 2020/21

The databases of the biggest cancer research funders for funding covering the year of 2021 were search by FICAN North 4.1.2022. The included funders were Finnish Cancer Foundation, Sigrid Juselius Foundation, Eemil Aaltonen Foundation, Jane and Aatos Erkko Foundation, and Academy of Finland (cancer). Included are only the funding with monetary value of 50000€ or higher.

- Finnish Cancer Foundation (2020) = 850 000€
  - Robert Winqvist 2021-22
  - Peppi Karppinen 2021-22
  - Joonas Kauppila 2021
  - Jussi Koivunen 2021
  - Ulla-Sisko Lehto 2021
  - Taina Pihlajaniemi 2021
  - Tuula Salo 2021
- Sigrid Juselius Foundation (2020-21) = 840 000€
  - Eklund Lauri 2020-22
  - Karppinen Peppi 2020-22
  - Lehtiö Lari 2020-22
  - Winqvist Robert, Pylkäs Katri 2020-22
  - Kietzmann Thomas 2020-21
  - Wei Gonghong 2020-21
- Jane and Aatos Erkko Foundation (2020) = 1 155 000€
  - Lari Lehtiö 2020-22
  - Katri Selander 2020-21
- Academy of Finland (funding covering 2021), = 7 238 941€
  - Karppinen, Peppi
  - Pihlajaniemi, Taina
  - Winqvist, Robert
  - Ruddock, Lloyd
  - Hakkola, Jukka
  - Meglinski, Igor
  - Nissinen, Jan
  - Jansson, Jussi-Pekka
  - Telkki, Ville-Veikko
  - Chen, Zhi
  - Pylkäs, Katri
  - Hauptmann, Andreas
  - Pihlajaniemi, Taina
  - Bykau, Aliaksandr
  - Vainio, Seppo
  - Bykau, Aliaksandr
  - Åström, Pirjo
  - Mantere, Tuomo

## 5. Prospective Intervention Clinical Trials in Cancer

FICAN North has been updating the registry of recruiting prospective intervention trials in the field of cancer at PPSHP from 2019 (<https://www.ppshp.fi/Tutkimus-ja-opetus/Pohjoinen-syopakeskus/Sivut/Syopatutkimus.aspx>). The registry has been updated 1-2/y.

The number of active clinical trials was n=45 18.1.2022 (n=46, 30.12.2020). Generally, distribution of the studies by indication has remained constant during the last year.

## 6. New professorships

University of Oulu established five new clinical professorships in the field of clinical medicine. Two of the selected clinical professors are actively involved in cancer research (Joonas Kauppila, clinical epidemiology; Tero Rautio, gastrointestinal surgery).

## 7. Awards

The medical faculty of Oulu University news feeds at 2021 were searched for awards received by cancer researcher.

- Joonas Kauppila was awarded as the young researcher of the year by Duodecim
- Taina Pihlajaniemi gained a lifetime award by Finnish Science Society
- Milla Kuusisto was awarded as the young researcher of the year by Duodecim Oulu