

Maja Louise Arendt
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Section for Internal Medicine, Oncology and Clinical Pathology
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Qualifications

Veterinary oncology, DipECVIM-CA(onc), University of Cambridge
1 Jul 2013 → 31 Aug 2017
Award Date: 1 Apr 2019

Molecular oncology, PhD, University of Glasgow
1 Sep 2005 → 31 Aug 2008
Award Date: 1 Jun 2009

My research is primarily focused on comparative oncology and applied clinical genetics, with a focus on the comparison between humans and dogs. We now know that not only is the biological behaviour shared between certain cancer types in humans and dogs, we also see shared mutational patterns and mutation hotspots. By studying the genetic landscape of different cancer types within and between species and correlating this to biological behaviour we can gain important insights into what is important for cancer to develop and metastasize.

Employment

Associate Professor

Section for Internal Medicine, Oncology and Clinical Pathology
Frederiksberg C
1 Jan 2018 → nu

Researcher

Uppsala University
Uppsala, Sweden
5 Jan 2013 → 31 Dec 2017

Post doc

Uppsala University
Uppsala, Sweden
1 Nov 2010 → 1 May 2013

Research outputs

Genome wide association study in Swedish Labrador retrievers identifies genetic loci associated with hip dysplasia and body weight

Kieler, Ida Nordang, Persson, S. M., Hagman, R., Marinescu, V. D., Hedhammar, Å., Strandberg, E., Lindblad-Toh, K. & Arendt, Maja Louise, Dec 2024, In: Scientific Reports. 14, 1, 6090.

Danish dog owners' use and the perceived effect of unlicensed cannabis products in dogs

Holst, Pernille, Kristensen, Annemarie T. & Arendt, Maja Louise, 2024, In: PLoS ONE. 19, 1, 14 p., e0296698.

PIK3CA is recurrently mutated in canine mammary tumors, similarly to in human mammary neoplasia

Arendt, Maja Louise, Sakthikumar, S., Melin, M., Elvers, I., Rivera, P., Larsen, Majbritt Maria Estrup, Saellström, S., Lingaas, F., Rönnerberg, H. & Lindblad-Toh, K., 12 Jan 2023, In: Scientific Reports. 13, 632.

Avancerede diagnostiske muligheder inden for veterinær onkologi hos familiedyr

Børresen, Betina, Holst, Pernille & Arendt, Maja Louise, 2023, In: Dansk Veterinærtidsskrift. 106, 2, p. 28-32 5 p.

Behandling af familiedyr med cytostatika og andre antineoplastiske lægemidler

Arendt, Maja Louise, Holst, Pernille, Kristensen, Annemarie T. & Børresen, Betina, 2023, In: Dansk Veterinærtidsskrift. 2023, 1, p. 24-28 5 p.

Evaluation of intensity-modulated electron FLASH radiotherapy in a clinical setting using veterinary cases

Konradsson, E., Szecsenyi, R. E., Adrian, G., Coskun, M., Børresen, Betina, Arendt, Maja Louise, Erhart, K., Bäck, S. Å. J., Petersson, K. & Ceberg, C., 2023, In: Medical Physics. 50, 10, 6569-6579.

Evaluation of single-fraction high dose FLASH radiotherapy in a cohort of canine oral cancer patients

Børresen, Betina, Arendt, Maja Louise, Konradsson, E., Bastholm Jensen, K., Bäck, S. & J., Munck af Rosenschöld, P., Ceberg, C. & Petersson, K., 2023, In: Frontiers in Oncology. 13, 10 p., 1256760.

Komplicerede mastcelletumorer hos hunde

Arendt, Maja Louise, Børresen, Betina & Holst, Pernille, 2023, In: Dansk Veterinærtidsskrift. 106, 3, p. 28-32 5 p.

Molecular detection of bovine leukosis virus in naturally infected dairy and dual-purpose cattle in Mexico

Cordero-Pulido, R. M., Martínez-Herrera, D. I., Vivanco-Cid, H., Villagómez-Cortés, J. A., Arendt, Maja Louise, Grube-Pagola, P. & Domínguez-Alemán, C. A., 2023, In: Veterinary Research Forum. 14, 8, p. 457-460 4 p.

Quality of Life After Partial Mandibulectomy or Maxillectomy in 45 Dogs With Oral Tumors

Bull, I., Ziener, M. L., Storli, S. H. & Arendt, Maja Louise, 2023, In: Journal of Veterinary Dentistry. 40, 4, p. 329-337

Sarcoma Predisposition in Dogs with a Comparative View to Human Orthologous Disease

Arendt, Maja Louise & Dobson, J. M., 2023, In: Veterinary Sciences. 10, 7, 476.

Surface guided electron FLASH radiotherapy for canine cancer patients

Mannerberg, A., Konradsson, E., Kügele, M., Edvardsson, A., Kadhim, M., Ceberg, C., Peterson, K., Thomasson, H., Arendt, Maja Louise, Børresen, Betina, Jensen, K. B. & Ceberg, S., 2023, In: Medical Physics. 50, 7, p. 4047-4054

Accurate FLASH delivery requires motion monitoring - SGRT is a feasible option for canine patients

Mannerberg, A., Konradsson, E., Edvardsson, A., Kugele, M., Kadhim, M., Ceberg, C., Petersson, K., Thomasson, H., Arendt, Maja Louise, Børresen, Betina & Jensen, K. B., 2022, In: Radiotherapy and Oncology. 170, S1, p. S1510-S1511

Ixovex-1, a novel oncolytic E1B-mutated adenovirus

Anwar, M., Arendt, Maja Louise, Ramachandran, M., Carlsson, A., Essand, M., Akusjärvi, G., Alusi, G. & Öberg, D., 2022, In: Cancer Gene Therapy. 29, p. 1628-1635

A novel canine reference genome resolves genomic architecture and uncovers transcript complexity

Wang, C., Wallerman, O., Arendt, Maja Louise, Sundström, E., Karlsson, Å., Nordin, J., Mäkeläinen, S., Pielberg, G. R., Hanson, J., Ohlsson, Å., Saellström, S., Rönnerberg, H., Ljungvall, I., Häggström, J., Bergström, T. F., Hedhammar, Å., Meadows, J. R. S. & Lindblad-Toh, K., 2021, In: Communications Biology. 4, 185.

Establishment and Initial Experience of Clinical FLASH Radiotherapy in Canine Cancer Patients

Konradsson, E., Arendt, Maja Louise, Bastholm Jensen, K., Børresen, Betina, Hansen, A. E., Bäck, S., Kristensen, Annemarie T., Munck af Rosenschöld, P., Ceberg, C. & Petersson, K., 2021, In: Frontiers in Oncology. 11, 10 p., 658004.

Intracavitary Electron FLASH Radiotherapy in a Canine Cancer Patient With Oral Malignant Melanoma

Konradsson, E., Arendt, Maja Louise, Jensen, K. B., Thomasson, H., Børresen, Betina, Petersson, K. & Ceberg, C., 2021, In: International Journal of Radiation Oncology, Biology, Physics. 111, 3, p. S31

The *ABCC4* gene is associated with pyometra in golden retriever dogs

Arendt, Maja Louise, Ambrosen, A., Fall, T., Kierczak, M., Tengvall, K., Meadows, J. R. S., Karlsson, Å., Lagerstedt, A. S., Bergström, T., Andersson, G., Lindblad-Toh, K. & Hagman, R., 2021, In: *Scientific Reports*. 11, 11 p., 16647.

Improving teaching within veterinary clinical oncology

Arendt, Maja Louise, 2020, *Improving University Science Teaching and Learning: Pedagogical Projects 2020*.

Christiansen, F. V. & Arias, A. A. (eds.). Copenhagen: University of Copenhagen, Vol. 15. p. 3-12 (Improving University Science Teaching and Learning - Pedagogical Projects, Vol. 15).

Targeted sequencing reveals the somatic mutation landscape in a Swedish breast cancer cohort

Mathioudaki, A., Ljungström, V., Melin, M., Arendt, Maja Louise, Nordin, J., Karlsson, Å., Murén, E., Saksena, P., Meadows, J. R. S., Marinescu, V. D., Sjöblom, T. & Lindblad-Toh, K., 2020, In: *Scientific Reports*. 10, 1, 19304.

A synonymous germline variant in a gene encoding a cell adhesion molecule is associated with cutaneous mast cell tumour development in labrador and golden retrievers

Biasoli, D., Compston-Garnett, L., Ricketts, S. L., Birand, Z., Courtay-Cahen, C., Fineberg, E., Arendt, Maja Louise, Boerkamp, K., Melin, M., Koltookian, M., Murphy, S., Rutteman, G., Lindblad-Toh, K. & Starkey, M., 2019, In: *PLOS Genetics*. 15, 3, e1007967.

SETD2 Is Recurrently Mutated in Whole-Exome Sequenced Canine Osteosarcoma

Sakthikumar, S., Elvers, I., Kim, J., Arendt, M. L., Thomas, R., Turner-Maier, J., Swofford, R., Johnson, J., Schumacher, S. E., Alfoldi, J., Axelsson, E., Couto, C. G., Kisseberth, W. C., Pettersson, M. E., Getz, G., Meadows, J. R. S., Modiano, J. F., Breen, M., Kierczak, M., Forsberg-Nilsson, K. & 2 others, Marinescu, V. D. & Lindblad-Toh, K., 2018, In: *Cancer Research*. 78, 13, p. 3421-3431

Amy2B copy number variation reveals starch diet adaptations in ancient European dogs

Ollivier, M., Tresset, A., Bastian, F., Lagoutte, L., Axelsson, E., Arendt, Maja Louise, Bălăşescu, A., Marshour, M., Sablin, M. V., Salanova, L., Vigne, J., Hitte, C. & Hänni, C., Nov 2016, In: *Royal Society Open Science*. 3, 11, p. 160449

Diet adaptation in dog reflects spread of prehistoric agriculture

Arendt, Maja Louise, Cairns, K. M., Ballard, J. W. O., Savolainen, P. & Axelsson, E., Nov 2016, In: *Heredity*. 117, 5, p. 301-306 6 p.

A Deletion in the Canine POMC Gene Is Associated with Weight and Appetite in Obesity-Prone Labrador Retriever Dogs

Raffan, E., Dennis, R. J., O'Donovan, C. J., Becker, J. M., Scott, R. A., Smith, S. P., Withers, D. J., Wood, C. J., Conci, E., Clements, D. N., Summers, K. M., German, A. J., Mellersh, C. S., Arendt, M. L., Iyemere, V. P., Withers, E., Söder, J., Wernersson, S., Andersson, G., Lindblad-Toh, K. & 2 others, Yeo, G. S. H. & O'Rahilly, S., 10 May 2016, In: *Cell Metabolism*. 23, 5, p. 893-900 8 p.

Genome-Wide Analysis Identifies Germ-Line Risk Factors Associated with Canine Mammary Tumours

Melin, M., Rivera, P., Arendt, Maja Louise, Elvers, I., Murén, E., Gustafson, U., Starkey, M., Borge, K. S., Lingaas, F., Häggström, J., Saellström, S., Rönnberg, H. & Lindblad-Toh, K., May 2016, In: *PLOS Genetics*. 12, 5, e1006029.

Genome-Wide Association Study of Golden Retrievers Identifies Germ-Line Risk Factors Predisposing to Mast Cell Tumours

Arendt, Maja Louise, Melin, M., Tonomura, N., Koltookian, M., Courtay-Cahen, C., Flindall, N., Bass, J., Boerkamp, K., Megquier, K., Youell, L., Murphy, S., McCarthy, C., London, C., Rutteman, G. R., Starkey, M. & Lindblad-Toh, K., Nov 2015, In: *PLOS Genetics*. 11, 11, e1005647.

Genome-wide association study identifies shared risk loci common to two malignancies in golden retrievers

Tonomura, N., Elvers, I., Thomas, R., Megquier, K., Turner-Maier, J., Howald, C., Sarver, A. L., Swofford, R., Frantz, A. M., Ito, D., Mauceli, E., Arendt, M., Noh, H. J., Koltookian, M., Biagi, T., Fryc, S., Williams, C., Avery, A. C., Kim, J-H., Barber, L. & 7 others, Burgess, K., Lander, E. S., Karlsson, E. K., Azuma, C., Modiano, J. F., Breen, M. & Lindblad-Toh, K., Feb 2015, In: *PLOS Genetics*. 11, 2, e1004922.

Amylase activity is associated with AMY2B copy numbers in dog: implications for dog domestication, diet and diabetes
Arendt, Maja Louise, Fall, T., Lindblad-Toh, K. & Axelsson, E., Oct 2014, In: Animal Genetics. 45, 5, p. 716-22 7 p.

The genomic signature of dog domestication reveals adaptation to a starch-rich diet
Axelsson, E., Ratnakumar, A., Arendt, Maja Louise, Maqbool, K., Webster, M. T., Perloski, M., Liberg, O., Arnemo, J. M., Hedhammar, A. & Lindblad-Toh, K., 2013, In: Nature. 495, 7441, p. 360-364 5 p.

The human and canine TERT promoters function equivalently in human and canine cells
Arendt, Maja Louise, Nasir, L. & Morgan, I. M., Dec 2010, In: Veterinary and Comparative Oncology. 8, 4, p. 310-6 7 p.

A novel two-step transcriptional activation system for gene therapy directed toward epithelial cells
Arendt, Maja Louise, Nasir, L. & Morgan, I. M., 2009, In: Molecular Cancer Therapeutics. 8, 12, p. 3244-3254 11 p.

Oncolytic gene therapy for canine cancers: teaching old dog viruses new tricks
Arendt, Maja Louise, Nasir, L. & Morgan, I. M., 2009, In: Veterinary and Comparative Oncology. 7, 3, p. 153-161 9 p.

Oncolytic gene therapy for canine cancers: teaching old dog viruses new tricks
Arendt, Maja Louise, 2009, In: Veterinary and Comparative Oncology.