

Maja Louise Arendt  
Lektor

Sektion for Medicin, Onkologi og Veterinær Klinisk Patologi

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## Kvalifikationer

Veterinær onkologi, DipECVIM-CA(onc), University of Cambridge

1 jul. 2013 → 31 aug. 2017

Dimissionsdato: 1 apr. 2019

Molekylær onkologi, PhD, University of Glasgow

1 sep. 2005 → 31 aug. 2008

Dimissionsdato: 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.

## Ansættelse

### Lektor

Sektion for Medicin, Onkologi og Veterinær Klinisk Patologi

Københavns Universitet

Frederiksberg C

1 jan. 2018 → nu

### Forsker

Uppsala University

Uppsala, Sverige

5 jan. 2013 → 31 dec. 2017

### Post doc

Uppsala University

Uppsala, Sverige

1 nov. 2010 → 1 maj 2013

## Publikationer

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

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

### **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, 2024, I: Scientific Reports. 14, 11 s., 6090.

### **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., Rönnberg, H. & Lindblad-Toh, K., 12 jan. 2023, I: Scientific Reports. 13, 632.

#### **Avancerede diagnostiske muligheder inden for veterinær onkologi hos familiedyr**

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

#### **Behandling af familiedyr med cytostatika og andre antineoplastiske lægemidler**

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

#### **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, I: 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, I: Frontiers in Oncology. 13, 10 s., 1256760.

#### **Komplicerede mastcelletumorer hos hunde**

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

#### **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, I: Veterinary Research Forum. 14, 8, s. 457-460 4 s.

#### **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, I: Journal of Veterinary Dentistry. 40, 4, s. 329-337

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

Arendt, Maja Louise & Dobson, J. M., 2023, I: 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, I: Medical Physics. 50, 7, s. 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, I: Radiotherapy and Oncology. 170, S1, s. 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, I: Cancer Gene Therapy. 29, s. 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., Rönnberg, H., Ljungvall, I., Häggström, J., Bergström, T. F., Hedhammar, Å., Meadows, J. R. S. & Lindblad-Toh, K., 2021, I: 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, I: Frontiers in Oncology. 11, 10 s., 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, I: International Journal of Radiation Oncology, Biology, Physics. 111, 3, s. 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, I: *Scientific Reports*. 11, 11 s., 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. (red.). Copenhagen: University of Copenhagen, Bind 15. s. 3-12 (Improving University Science Teaching and Learning - Pedagogical Projects, Bind 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, I: *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, I: *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 flere, Marinescu, V. D. & Lindblad-Toh, K., 2018, I: *Cancer Research*. 78, 13, s. 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, I: *Royal Society Open Science*. 3, 11, s. 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, I: *Heredity*. 117, 5, s. 301-306 6 s.

### **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 flere, Yeo, G. S. H. & O'Rahilly, S., 10 maj 2016, I: *Cell Metabolism*. 23, 5, s. 893-900 8 s.

### **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., maj 2016, I: *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., Megquair, K., Youell, L., Murphy, S., McCarthy, C., London, C., Rutteman, G. R., Starkey, M. & Lindblad-Toh, K., nov. 2015, I: *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., Megquair, 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 flere, Burgess, K., Lander, E. S., Karlsson, E. K., Azuma, C., Modiano, J. F., Breen, M. & Lindblad-Toh, K., feb. 2015, I: *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., okt. 2014, I: Animal Genetics. 45, 5, s. 716-22 7 s.

**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, I: Nature. 495, 7441, s. 360-364 5 s.

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

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

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

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