

РЕПУБЛИКА СРБИЈА
УНИВЕРЗИТЕТ У БЕОГРАДУ
ФАКУЛТЕТ ВЕТЕРИНАРСКЕ МЕДИЦИНЕ

ПРИМЉЕНО: 04.12.2020.			
Орг. јед.	Број	Прилог	Вредност
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ФАКУЛТЕТ ВЕТЕРИНАРСКЕ МЕДИЦИНЕ
КАТЕДРА
ЗА ПАТОЛОШКУ МОРФОЛОГИЈУ

Бр. 645
04. 12. 2020 год
БЕОГРАД

ФАКУЛТЕТ ВЕТЕРИНАРСКЕ МЕДИЦИНЕ У БЕОГРАДУ
Катедра за судску ветеринарску
медицину и законске прописе

Број 34/20
Датум 4. 12. 2020 год.

УНИВЕРЗИТЕТ У БЕОГРАДУ
ФАКУЛТЕТ ВЕТЕРИНАРСКЕ МЕДИЦИНЕ
Катедра за патолошку морфологију
Катедра за судску ветеринарску медицину и законске прописе

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Универзитет у Београду
Факултет ветеринарске медицине
Булевар ослобођења 18, Београд

НАСТАВНО-НАУЧНОМ ВЕЋУ

Предмет: Молба о ангажовању гостујућег професора

На заједничком састанку Већа Катедре за патолошку морфологију и Катедре за судску ветеринарску медицину и законске прописе једногласно је донета одлука да се покрене иницијатива за ангажовање др Томислава Јелесијевића на позицији гостујућег професора.

DVM, PhD, Diplomate ACVP Томислав Јелесијевић је тренутно запослен као Assistant Professor Veterinary Pathology на Iowa State University's College of Veterinary Medicine, USA.

Предвиђено је да др Томислав Јелесијевић одржи више предавања на основним и последипломским студијама из области патолошке морфологије и форензике у ветеринарској медицини, са посебним акцентом на актуелне заразне болести животиња.

У прилогу се налази биографија и списак објављених радова.

У Београду, 4.12.2020.

Шеф Катедре за патолошку
морфологију

Проф. др Сања Алексић-Ковачевић

Шеф Катедре за судску вет. мед.
и законске прописе

Проф. др Владимир Нешић

TOMISLAV JELESJEVIC

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EDUCATION/DEGREES

- 2011 **PhD**, University of Georgia, Athens, dissertation title: "SILENCING SARS", major professors, Dr. Elizabeth W. Uhl and Robert J. Hogan, jhogan@uga.edu
- 2007 **Diplomate of American College of Veterinary Pathology (ACVP)**, residency advisor, Dr. Elizabeth W. Uhl, euhl@uga.edu
- 2001 **Master of Science**, University of Belgrade, Serbia, thesis title: "RELATIONSHIPS BETWEEN HISTOLOGICAL APPEARANCE OF MAMMARY GLAND TUMORS IN THE BITCH AND AgNOR SCORE", major professor, Dr. Milijan Jovanovic, milijan@vet.bg.ac.rs
- 1996 **Doctor of Veterinary Medicine** (equivalent), Faculty of Veterinary Medicine, University of Belgrade, Serbia

PROFESSIONAL APPOINTMENTS

- 2018- **Assistant Professor**, Department of Veterinary Pathology, Iowa State University (ISU), Ames, USA

Roles & Responsibilities:

Principal Investigator:

- Studying roles of immunomodulation as a mechanism of disease in domestic animals and animal models of human disease.
- Developing assays for characterization of Myeloid Derived Suppressor cells in domestic animals.
- Studying mechanisms involved in development of the mammary gland and its tumors in dogs and cats.
- Developing and repurposing drugs to treat patients with SARS CoV2 infection

Diagnostic service:

- 18 weeks of biopsy (~140 submissions per week) and necropsy (~20 submissions per week) diagnostic service per year.

Teaching:

- VPTH 377 (professional curriculum, 2nd year veterinary students) case based study, 16 contact hours, 6 hours of online teaching material each fall semester.
- VPTH 456 (professional curriculum, 4th year veterinary students) - necropsy laboratory practicum, part of diagnostic service rotation.
- VPTH 571, (professional curriculum), systemic pathology, 4-8 hours, fall semester odd number years.

-VPTH 604 (graduate course), histopathology seminar, 14 hours fall semester 2019.

Mentoring:

-PhD committee member for Dr. Jeba Jesudoss-Chelladurai, (defended October 2019), major professor Dr. Matthew Brewer.

-HON 290 class, teaching undergraduate research students in cell culture techniques, flow cytometry, and fluorescent microscopy. Three contact hours per week for each enrolled student spring semester.

Committees:

-Research Advisory Committee (ISU VetMed), reviewing and ranking institutional grant submissions, assisting in preparation and development of research programs, advising the Associate Dean of Research regarding research policies and procedures.

2012-18 **Senior Research/Postdoctoral Associate**, Department of Infectious Diseases, University of Georgia, Athens, USA (supervisor Dr. Eric Lafontaine, elafon10@uga.edu)

Roles & Responsibilities:

Investigator and pathologist:

Continued development of effective vaccines for Melioidosis & Glanders in Department of Defense and NIH studies. Good laboratory practices in both *in vitro* and *in vivo* applied research in the BSL3 laboratory. Three animal models: murine, non-human primate and equine. Discovery of novel vaccine targets, using single and double knock out bacterial strains, *in vitro* epitope elution, and *in vivo* antigen discovery. Design and analysis of experimental data acquired from immune and molecular assays, flow cytometry, confocal microscopy, gross and microscopic pathology.

Developer of Laboratory SOPs:

Continued development and implementation of novel inactivation and safety testing protocols for SARS corona virus, *Burkholderia mallei* and *pseudomallei* (approved by CDC). Also developed necropsy and inactivation protocols for marmosets and mice infected with *Burkholderia mallei* and *pseudomallei*. Developed protocols for isolation of myeloid derived suppressor cells.

2005-11 **Graduate Assistant**, Pathology Department, University of Georgia, Athens, USA

Roles & Responsibilities:

Pathologist:

Biopsy and necropsy duties from 2007-2011. Examined animal species ranging from millipedes, arachnids, fish, amphibians, reptiles, companion animals to large animals, including four elephants. Taught one-on-one residents on diagnostic duty.

PhD student:

Virology study of SARS-corona virus, acquired expertise in cell cultures, application and use of small interfering RNAs and Lentiviral libraries in

discovery of novel antiviral targets. High containment (Biosafety level 3) study. Studied susceptibility of alligators to Influenza virus.

Teaching assistant:

General and veterinary pathology (laboratory teaching).

2004-05 **Visiting scholar**, Pathology Department, University of Georgia Athens, USDA Fellowship

Roles & Responsibilities:

Pathology resident:

Biopsy and necropsy duties, preparation for anatomic pathology boards exam, taught general and veterinary pathology (laboratory setup).

1997-2004 **Instructor/Pathologist**, Pathology Department, Veterinary Medicine, University of Belgrade, Serbia

Roles & Responsibilities:

Pathologist:

Supervised necropsy and histopathology services (small ruminants, porcine, poultry, companion animals, large animals), Bovine Spongiform Encephalopathy histology diagnostics per request; prepared, signed and filed out diagnostic reports.

Investigator:

Toxicology studies (rabbits, rats, hamsters), farmers lung disease (porcine, rats), tumor pathology (companion animals). Research project funded by Serbian Ministry of Science and Technology, project #1659.

Teaching Instructor:

Third year veterinary students, veterinary pathology laboratories 12 hours per week/both fall and spring semester- necropsy technique, histopathology, gross pathology slide presentations (up to 30 students per group) and 2 hours of classroom lecture per semester (up to 200 students in classroom).

Administrative work:

Reported research progress to funding agencies, scheduled exams for third year students and reported results to the higher College administration, ordered teaching materials.

Other:

Advanced computer skills, IT support for Department.

FUNDING

Funded

- DeepDrug: AI-based Drug Discovery for SARS CoV2, LSU subaward (\$83 307) Skymount, October 2020.
- Evaluation of Prefense hand and multi-surface pro sanitizers efficacy in SARS CoV2 inactivation, Prefense LLC (\$36 661), October 2020.
- Training Fellowship USDA (\$22 000), February 2004.

Unfunded:

- Role of High-Mobility Group Box-1 (HMGB1) in orchestrating the cytokine storm in a mouse model of SARS CoV2 infection, Fast Grants (\$110 763), July 2020.
- Elucidating Dynamics of SARS CoV2 – Host Cell Interactions with Artificial Intelligence, Fast Grants (\$178 000), July 2020.
- Development and Evaluation of Effective Antimicrobial Interventions for SARS-CoV-2: Foods, Food Processing Surfaces and Personnel, USDA (\$ 999 999), June 2020.
- Rapid: Collaborative Research: Elucidating the dynamics of host cell and SARS CoV2 interactions, National Science Foundation (\$191 759), May 2020.
- AKC Canine Health Foundation: Histological characterization of gonadotropin receptors in normal and neoplastic canine mammary glands (\$ 14 916), July 2019.
- Iowa State University, Vice President of Research: Cost Sharing – special reasearch instrumentation (\$ 15 000), January 2019.
- Morris Animal Foundation: Influence of hormonal environment on prognostic markers expression in canine mammary gland tumors, October 2004.

PUBLICATIONS

Articles (peer reviewed)

1. Lafontaine ER, Chen Z, Huertas MC, Dyke JS, **Jelesijevic T**, Michel F, Hogan RJ, He B. *The autotransporter protein Bata is a protectivte antigen against lethal aerosol infection with Burkholderia mallei and Burkholderia Pseudomallei*, **Vaccine: X**, <https://doi.org/10.1016/j.jvax.2018.100002>, 2019.
2. Zimmerman SM, Long M, Dyke JS, **Jelesijevic T**, Michel F, Lafontaine ER, and Hogan RJ. *Use of immunohistochemistry to demonstrate in vivo expression of the Burkholderia mallei virulence factor BpaB during experimental glanders*, **Veterinary Pathology**, 55(2), 258-267, 2018.
3. Zimmerman SM, Dyke JS, **Jelesijevic T**, Michel F, Lafontaine ER, and Hogan RJ. *Antibodies against in vivo-expressed antigens are sufficient to protect against lethal aerosol infection with Burkholderia mallei and Burkholderia pseudomallei*, **Infection and Immunity**, 85(8), 25 e00102-17, 2017.
4. **Jelesijevic T**, Zimmerman SM, Harvey SB, Mead DG, Shaffer TL, Estes M, Michel F, Quinn FD, Hogan RJ, Lafontaine ER. *Use of the common marmoset to study Burkholderia mallei infection*, **Plos One**, 10(4):e0124181. doi:10.1371/journal.pone.0124181, eCollection, 2015.
5. Temple BL, Finger JW Jr, **Jelesijevic T**, Uhl EW, Hogan RJ, Glenn TC, and Tompkins SM. *In ovo and in vitro susceptibility of American alligators (Alligator mississippiensis) to Avian Influenza Virus Infection*, **Journal of Wildlife Disease**, 51 (1), 187-98, 2015.

6. Aleksic-Kovacevic S, Kukolj V, **Jelesijevic T**, Jovanovic M. *Retrospective analysis of canine mesenchymal tumors of skin and soft tissue*, *Acta Veterinaria*, 55 (5-6), 521-529, 2005.
7. **Jelesijevic T**, Jovanovic M, Knezevic M, Aleksic Kovacevic S. *Quantitative and qualitative analysis of AgNOR in benign and malignant canine mammary gland tumors*, *Acta Veterinaria*, 53 (5-6): 353-360, 2003.
8. Aleksic-Kovacevic S. and **Jelesijevic T**. *Morphological, histopathological and immunohistochemical study of canine malignant lymphoma*, *Acta Veterinaria*, 4, 245-54, 2001.
9. Aleksic-Kovacevic S, **Jelesijevic T**. *Promene u limfnim cvorovima macaka spontano inficiranih virusom macije imunodeficijencije (FIV)*, *Veterinarski Glasnik*, 52, 3-4, 175-180, 1998.

Recently submitted and in preparation:

1. Wasan K, Bess A, Berglind F, Mukhopadhyay S, Brylinski M, **Jelesijevic T**, Cormier S, Ader A, Griggs N, Gould J, Cho T, Abramov J, Hnik P, and Galliano C. *The Use of Artificial Intelligence to Discover Novel Therapeutics for Infectious Diseases*, *Nature Reviews Drug Discovery*, (submitted 09/14/2020)
2. **Jelesijevic T**, Uhl E, Wells L, Fang M, Michel F, Xiadan G, Hogan RJ. *Heat shock proteins influence SARS CoV replication*, to be submitted to **Plos One**.

PRESENTATIONS

Invited Speaker

1. *Challenges in Developing Highly Effective Treatments and Vaccine for Glanders*, Department of Comparative Biomedical Sciences at CVM, Louisiana State University, 2017.
2. *Mammary gland tumors in dogs*. Charles Louis Davis Symposium, Belgrade, Serbia 2004.
3. *Mammary gland tumors in dogs*. Serbian Veterinary Meeting, September, Zlatibor, Serbia, 2003.

Scientific presentations

1. **Jelesijevic T**, Nesic V, Aleksic-Kovacevic S, Marinkovic D, Gledic D, Knezevic M, Jovanovic M. *Follicle stimulating hormone receptor expression in histologically normal and neoplastic canine mammary gland tissues*. Experimental Biology, April, 2020.
2. Uhl EW, Osborn ML, Michel F, **Jelesijevic T**, Hogan RJ. *Synonymous changes in specific leucine codons impact morbilliviral protein production from human & canine codon optimized constructs*. Experimental Biology, Orlando, Florida, April 2019.
3. Uhl EW, Osborn ML, Michel F, **Jelesijevic T**, Hogan RJ. *Localized optimization of measles virus (MV) hemagglutinin (H) gene to human codon usage bias increases protein expression*. Experimental Biology, San Diego, CA, April 2018.
4. **Jelesijevic T**, Zimmerman SM, Michel F, Lafontaine ER, and Hogan RJ. *Embolus pneumonia with intralobular bacilli in two marmosets intranasally infected with *Burkholderia mallei**, ACVP, New Orleans, Louisiana, December 2016.

5. **Jelesijevic T**, Zimmerman SM, Dyke JS, Michel F, Lafontaine ER, and Hogan RJ. *Challenges in developing a glanders vaccine and possible role of myeloid-derived suppressor cells in a murine model of chronic infection*, ACVP, New Orleans, Louisiana, December 2016.
6. **Jelesijevic T**, Uhl EW, Michel F. and Hogan RJ. *Bovine pituitary extract interferes with SARS-CoV replication*, Experimental Biology, Anaheim, California, April 2010.
7. **Jelesijevic T**, Uhl EW, Michael F, Hogan RJ. *Cellular levels of ACE2 directly correlate with enhanced SARS-COV replication*, ACVP, Monterey, December 2009.
8. **Jelesijevic T**, Uhl EW, Michael F, Hogan RJ. *Significance of receptor mediated endocytic pathways in SARS corona virus replication*, ASV, Vancouver, Canada, July 2009.
9. Hogan RJ, Cadet V, **Jelesijevic T**, Michel F. *Role of cellular autophagy-related genes in the replication of poxvirus*, ASV, Vancouver, Canada, July 2009.
10. **Jelesijevic T**, Uhl EW, Michael F, Hogan RJ. *Significance of caveolin-1 and clathrin in SARS corona virus replication*, ACVP, San Antonio, November 2008.
11. **Jelesijevic T**, Brown C, Howerth E. *Neuropathology mystery slide session Sarcocistis neurona in an Arabian horse*, ACVP, Savannah, November 2007.
12. **Jelesijevic T**, Harmon B. *Chytridiomycosis in an Eastern Newt*, South Eastern Pathology Conference, Tifton, Georgia, 2007.
13. **Jelesijevic T**, Brown C, Harmon B. *Adrenocortical atrophy in a dog*, South Eastern Pathology Conference, Tifton, Georgia, 2006.
14. **Jelesijevic T**, Carmichael P. *Thyroid follicular gland carcinoma in a Capuchin monkey*, South Eastern Pathology Conference, Tifton, Georgia, 2005.
15. Aleksic-Kovacevic S, Kukolj V, Marinkovic D, **Jelesijevic T**, Jovanovic M, Knezevic M. *Retrospective study of canine epithelial, melanocytic and mesenchymal tumors of skin*, Proceedings and programme of the ESVP, Naples, Italy, 2005.
16. Jovanovic M, Aleksic-Kovacevic S, Marinkovic D, **Jelesijevic T**, Knezevic M. *Is the feline cholangiohepatitis complex genetically related?* Proceedings and programme of the ESVP, Olsztyn, Poland, September 2004.
17. **Jelesijevic T**, Aleksic-Kovacevic S, Andric N, Knezevic M, Drndarevic N, Marinkovic D. *Malignant melanoma in a brown bear*. Proceedings and programme of the ESVP, Turin, Italy, 2002.
18. Aleksic-Kovacevic S, **Jelesijevic T**, Magas V, Nesic V, Knezevic M, Jovanovic M. *Cytokeratin and AgNOR expression in mammary gland tumors of bitches*, Archive of Oncology 10, (Suppl. 1), 133, 2002.
19. **Jelesijevic T**, Aleksic-Kovacevic S: *The role of AgNORs in determination of grade of canine malignant lymphoma differentiation*, Proceedings and programme of the ESVP, Thessaloniki, Greece, 2001.
20. Aleksic-Kovacevic S, **Jelesijevic T**. *Feline infectious peritonitis (fip)-the first cases diagnosed on our section material*, Archive of Oncology 9; (Suppl.1), 69-70, 2001.
21. **Jelesijevic T**, Jovanovic M, Aleksic-Kovacevic S. *Relationship between histological grade of mast cell tumors and AgNORs frequency*, Proceedings and programme of the ESVP, Amsterdam, Netherlands, 2000.

RESEARCH SKILLS

High Containment - Biosafety Level 3 Labs (BSL3, ABSL-3, BSL-3 Ag). More than 10 years of independent and accident-free BSL3 work.

Virology/Bacteriology - SARS coronavirus, Vaccinia, Mumps and Influenza viruses. *Burkholderia pseudomallei*, *B. mallei*, and *B. thailandensis*.

Immunoassays - ELISA, Western blots, immunofluorescence and immunohistochemistry.

Protein Analysis/Molecular Techniques. Spin chromatography, protein purification, DNA/RNA extraction, RTQ-PCR.

Cell Cultures - Collection, sub-culturing, co-culturing, T-cell replication assay, positive/negative selections of (non)infected primary and continuous cell lines.

Flowcytometry and Confocal microscopy – immunophenotyping and analysis of cell cultures and single cell tissue suspensions.

RNA interference technology - Discovery of novel targets for vaccine development and therapy.

RESEARCH EXPERIENCE AND ANIMAL MODELS

During my academic career, I have been exposed to quite diverse animal species, including arachnids and arthropods (tarantulas and millipedes), aquarium fish, captive amphibians and reptilians, non-human primates, and also more routine companion animals as well as livestock. In addition to this, I also performed four necropsies on elephants, three of which were performed in field conditions with full implementation of BSL-3 protection gear and practices because animals were positive for *Mycobacterium tuberculosis*. My familiarity with such diverse species has bolstered my ability to accept and handle unexpected challenges, especially in cases of rarely examined animal species and diseases as well.

My Ph.D. project investigated the interactions between host cells and the SARS coronavirus, with the majority of the work performed in the BSL-3 environment (all in vitro work). During this time period, I also collaborated with a research group and performed infections of alligator embryos with influenza virus, determined viral load, and evaluated histopathology.

As a post-doctoral researcher, I mainly worked on vaccine and therapeutics development against causative agents of Glanders (*Burkholderia mallei*) and Melioidosis (*Burkholderia pseudomallei*). The studies were performed in BSL-3, ABSL-3, BSL-3 Ag laboratories, in mice, and marmosets using intranasal and aerosol (Microsprayer) models of infection. During this time, I realized how much the model of infection influences experimental results, particularly intranasal vs. aerosol. In addition, during this time, I also worked with a research group that performed infection of ferrets with *Mycobacterium tuberculosis* (ABSL-3) and necropsied these animals.

In addition to the abovementioned animal species, I have also worked in studies which evaluated the pathogenesis of turtles to herpes fibropapilloma virus, mice and mumps virus (Iowa 2006 isolate), food poisoning studies in rats, and preclinical studies of several drugs in hamsters, and rabbits, and farmers lung disease in a pig model.

MEMBERSHIPS

American College of Veterinary Pathologist
Society of Investigative Pathologists