

ACVR Diagnostic Imaging Residency Training Program Application

This application is required for institutions desiring ACVR accreditation of a new residency training program and for institutions requesting re-accreditation of an existing program.

Before beginning the application process, all applicants should review the most recent version of the [ACVR Residency Program Essential Training Standards and Requirements](#) (RPE) document (accessed from the Essentials Homepage) in detail. Use the RPE as a reference when completing the application form, as the contents you provide herein will be evaluated by the Residency Standards and Evaluation Committee (RSEC) against the published RPE standards. This application form follows the headings of the RPE. All terms used in this application have same definitions as those in the RPE, and no information provided in the application form itself will supersede that published in the RPE. During the application review process, the Chair or Assistant Chair of the RSEC may contact the applicant for additional information or clarification.

**Note: If you wish to save your submission and complete it later, click the save button located at the bottom of the pages. You will be emailed a link to complete your form at a later date.*

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Program Summary

The Residency Director of the program is expected to be the primary applicant and contact person for this application. The Residency Director must be located at the primary training institution.

Institution Name	Ontario Veterinary College
Residency Program Director Name	Alex zur Linden
Residency Program Director Email	azurlind@uoguelph.ca

Program Type

What type of residency program is being requested?	Traditional Residency Program
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If approved, what is the proposed start date of this residency program?	Monday, January 31, 2022
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Objectives

Succinctly state the objectives of the training program.

To train future radiologists using evidence based medicine and have them critically evaluate cases considering pathophysiology and anatomy. To encourage research ideas and projects with follow through to completion. To teach the future generation of our profession and improve communication skills while doing so.

Training Period

What is the total length of the training program? 208

What is the anticipated length of supervised clinical training a resident will experience during this program? 128

Will the resident(s) in this program be eligible to take the ACVR Preliminary Exam in September of their third year? No

If not, please state the reason.

They will not have the 20 month of clinics needed to sit the preliminary examination, only about 66 weeks or 16-17 months.

What are the responsibilities of the resident(s) during non-clinical portions of the program?

The residency includes a graduate degree (DVSc) which is a thesis based degree and the reason the program is 4 years in length. They have a research project to perform, a graduate comprehensive examination and thesis defence that takes up the majority of their non-clinical time. This time is also involved in topic presentations for DI rounds, neurology rounds, and a college wide seminar each year. Vacation time is also part of this time.

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Direction and Supervision

When calculating time commitment in this section, you may consider a 100% (full time) duty schedule to consist of 48 weeks per year with 8 hours per day or 40 hours per week.

Residency Director

Please review the Residency Director requirements and responsibilities in the [ACVR Residency Program Essential Training Standards and Requirements](#) (RPE) document. Note that the Residency Director will be required to provide at least 24 weeks of clinical duty per year in primary support of residents in this program and to meet all other qualifications of a Supervising Diplomate.

Is the applicant Residency Director for this program prepared to meet these requirements? Yes

What percentage of the Residency Director's time is committed to clinical service at the primary training institution? 50

How many weeks per year will the Residency Director be on clinical service and teaching residents at the primary training institution? 25

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Additional Training Diplomates

Please review the definitions and responsibilities of [Supervising Diplomate and Supporting Diplomate](#) in the RPE document. Note that Supervising Diplomates will be required to provide at least 10 weeks of clinical duty in primary support of residents in this program, and are expected to participate in all facets of residency training. Supporting Diplomates aid in residency training, but provide support that is limited, as by modality (e.g. only works in ultrasound), time commitment (e.g. clinical duty < 10 weeks per year), or other constraints that prevent them from qualifying as a Supervising Diplomate.

Provide a copy of affiliation agreements with any diplomates that are located at an external institution (see Affiliation Agreement item at the end of this section).

Excluding the Residency Director, please list all training diplomates who will act as Supervising Diplomates of this residency program. Indicate the approximate number of hours per year each supervisor will be scheduled on clinical duty with primary support of residents and, if applicable, any specific areas of instructional responsibility (e.g. trains mostly in small animal, trains mostly in MRI, etc). If a 'Supervising Diplomate' position will be comprised of multiple radiologists, please list the cohort as a single entity or institution for this question (e.g. "teleradiologists" or private institution name)

Name: Ryan Appleby

Hours/Year: 1125

Specific Areas and/or Limitations of Instructional Responsibility: all areas

Institution: Ontario Veterinary College

If any Supervising Diplomate position is comprised of >1 radiologist, list each individual member of the Supervising cohort here. Indicate the approximate percentage of hours each individual will contribute to the total cohort hours listed above as well as any specific areas of instructional responsibility and/or limitations in the scope of supervision (e.g. does not participate in ultrasound instruction; only trains residents in large animal, etc).

Name: Stephanie Nykamp

% of Hours: 305 hours/year clinics + 7 weeks of out of hours backup and teaching (1 week)

Specific Areas of Instructional Responsibility: Clinical coverage, out of hours backup, teaching

Institution: Ontario Veterinary College

In addition to ACVR/ECVDI Diplomates, the program must arrange for the resident(s) to have direct access to specialists in other areas. Please identify one member in each of the specialty colleges listed below that has agreed to support this program through clinical activity that allows regular interactions between the specialist and the diagnostic imaging residents (e.g. discussion of diagnostic work up, imaging findings, or patient outcomes, and/or participation in interdisciplinary rounds, etc). Indicate whether the specialist is located on-site at the primary institution at an external institution. Provide a copy of affiliation agreements with any non-ACVR/ECVDI diplomates that are located at an external institution (see Affiliation Agreement section at the end of this application). Upon completion of this application, the below individuals will receive an email requesting acknowledgement of their support of your residency program.

ACVIM Member Name	Shauna Blois
ACVIM Member Institution	Ontario Veterinary College
ACVIM Member Email	sblois@uoguelph.ca
ACVS Member Name	Ameet Singh
ACVS Member Institution	Ontario Veterinary College
ACVS Member Email	amsingh@uoguelph.ca
ACVP Member Name	Robert Foster
ACVP Member Institution	Ontario Veterinary College
ACVP Member Email	rfoster@uoguelph.ca

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Resident:Supervising Diplomate Ratio

The number of residents in the program cannot exceed twice the number of Supervising Diplomates **on-site**. Remote Supervising Diplomates will not count when calculating the maximum residents allowed in a given program.

What is the maximum number of imaging interns you will have enrolled in this training program at any given time?

0

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Facilities

Review the Facility Requirements listed in the RPE document. Note also that residents should have opportunities to be involved with image acquisition and protocol set-up.

Does this residency training program provide on-site access to modern equipment for the following modalities?

Digital or Computed Radiography	<input type="text" value="Yes"/>
Fluoroscopy	<input type="text" value="Yes"/>
Ultrasound with Doppler Capability	<input type="text" value="Yes"/>
MRI	<input type="text" value="Yes"/>
Fan-beam CT	<input type="text" value="Yes"/>

Nuclear scintigraphy

Yes

Briefly describe how this program meets the facility requirements, including the specific type of CT and MRI units available. Explain how your program will train residents in modalities for which equipment is not located on site, providing affiliation agreements if applicable. (see Affiliation Agreement item at the end of this section)

All equipment is available on site. We have a 16 slice GE CT scanner, 1.5T GE MRI scanner, cone beam Pegaso CT scanner, digital fluoroscopy (c-arm and table unit), multiple DR units, multiple US machines (newest addition coming Feb 2022, Canon Aplio 700), gamma camera.

Please describe how residents will gain experience in image acquisition and protocol set-up for each of these modalities (excluding nuclear medicine).

Residents have assigned time spent in CT and MRI setting up the patients and learning the protocols. Out of hours CT scans are performed by the residents, but MRI scans are not. Time is also spent with the technicians for radiograph positioning during a 2 week orientation in both small and large animal radiography. Residents perform the fluoroscopy and ultrasound studies themselves.

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Clinical Resources and Training Content

Review the clinical resource and training content requirements listed in the RPE document

What is the average annual caseload at the primary institution over the past 3 years? This number will include all patient visits whether or not they contribute to the annual imaging caseload. 18500

What is the average annual imaging caseload at the primary institution over the past 3 years? Each body region imaged for a given patient (e.g. thorax, abdomen, spine, etc) will count as a single study. 9130

What is the average annual imaging caseload at the primary institution over the past 3 years in the following categories?

Small animal radiology	3500
Large animal radiology	450
Abdominal ultrasound	3500
Non-abdominal ultrasound	250
Computed tomography	900
Magnetic Resonance Imaging	500
Nuclear scintigraphy	15

Other (Specify)

cone beam equine head CT 15

Indicate the approximate species breakdown of the imaging caseload at the primary institution in the following categories:

Small animals (canine, feline): 80

Large animals (equine, bovine, porcine, etc.): 5

Avian, Exotic, and Wildlife animals: 15

Which of the following types of imaging cases will the resident(s) have direct, on-site exposure to at the primary institution during the residency program?

Echocardiography

Yes

Large animal ultrasound

Yes

Nonabdominal small animal ultrasound (i.e. cervical, musculoskeletal)

Yes

Food/fiber animal imaging

Yes

Exotics imaging

Yes

Teleradiology/Referral imaging

Yes

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What percentage of the total imaging caseload at the primary institution results in a written imaging report being generated by either the residents or the training radiologist diplomates in this program?

99

What percentage of the preliminary reports generated from the imaging caseload are initially produced by the resident(s) in this program?

95

Does this institution concurrently support the training of diagnostic imaging interns?

No

What percentage of resident-generated reports are reviewed by training diplomates prior to finalization of the report?

100

What is the average turnaround time for resident-generated preliminary reports to be finalized by training diplomates?

24 hours

What percentage of all imaging reports (resident and diplomate generated) is finalized and available to requesting clinicians within 48 hours after the exam is submitted for radiologist consult?

99

Please describe how after-hours/weekend/holiday cases are handled at the primary institution. How does this affect resident-reported imaging caseload?

Senior residents are on call by themselves, with faculty backup if needed. Junior residents have a faculty backup for all cases that will either be present in hospital or available to review studies from home as backup. These studies are included in the resident-reported caseload.

For each category below, calculate the approximate number of cases that a single resident will interpret at the primary institution with radiologist feedback during the course of the entire residency program. These numbers should be calculated using the annual imaging caseload adjusted to include only those with written reports generated by the residents. In general, this number should then be divided by the total number of residents in a program during a given year.

If external rotations for the resident(s) are employed to increase the resident caseload in any given category, please be sure to upload affiliate agreements that include the expected number of reports that residents can expect to generate (with radiologist feedback) for cases in those categories.

Small animal radiology 875

Large animal radiology 112

Abdominal ultrasound 875

Non-abdominal ultrasound 63

Computed tomography 225

Magnetic resonance Imaging 125

Nuclear scintigraphy 3

Other (specify) 4

How many ultrasound exams will a single resident perform with radiologist supervision and feedback during the course of the entire program? Scans for which the resident writes a report but does not acquire images are excluded. 3600

Do residents in this program have ample hands-on training and practice opportunities to become proficient in the performance of ultrasound guided fine needle aspirates and biopsies?

Yes

Please indicate whether this training program includes formal courses in any of the following topics:

Physics of Diagnostic Imaging

Yes

Radiobiology

Yes

Nuclear Medicine

No

Ultrasonography

Yes

Computed Tomography

Yes

Magnetic Resonance Imaging

Yes

Other

Yes

Briefly describe the formal courses that are available for the resident(s) in this program by indicating the institution, course title, course number, and credit hours as well as any other relevant information. For any topics for which formal course work is not provided for the resident(s), please explain how educational objectives in these topics will be met.

As part of the DVSc program at our institution there are 5 classes (2.5 credits) needed for their degree. These courses include statistics, diagnostic imaging physics, diagnostic imaging (equine, CT, radiographs, ultrasound), neuroimaging, and other available topics from other services (surgery, internal medicine, pathology). Other topics such as book review (pathology, MRI, diagnostic imaging, ultrasound), journal club (VRUS and others) are covered in daily morning radiology rounds.

Do residents have access to a majority of the written pathology reports that are generated from patients included in this imaging caseload?

Yes

Will the resident(s) in this program attain an advanced degree (MS, PhD) at the conclusion of the program?

DVSc - between PhD and MS is what other institutions may see this degree as

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Research Environment

Review the Research Requirements listed in the RPE document.

Over the last five years, what is the average number of peer reviewed publications on which the training diplomates (Supervising and Supporting diplomates) of this program are included as authors? (total number of publications in last 5 years among all training diplomates divided by the number of training diplomates) 18

How many peer-reviewed publications are expected of a resident completing the program? 2

If this is an established program, what percentage of residents have made formal research presentations at the annual ACVR or equivalent national meeting? 75

Briefly describe if/how residents are encouraged to engage in investigative work and what mechanisms are in place for training diplomates to support this work.

A research project is part of their DVSc degree for which they have a committee composed of the DI faculty and 2 or 3 other faculty in the college.

Educational Environment

Review the Educational Environment expectations listed in the RPE document.

Please list and enumerate the formal presentations that are expected of each resident during the course of their training. In general, didactic lectures, departmental seminars, scientific presentations, Continuing Education presentations, and similar are considered "formal". Informal topic rounds, journal club, small group teaching (like student rounds), student labs, and similar events should not be included.

Four case presentations to the entire college are performed (department seminar), once per year, during grand rounds. Scientific presentations at conferences are expected at least once during their residency.

Briefly describe the type and extent of teaching opportunities that are provided to the resident throughout the training program.

The resident teach the fourth year students during morning rounds include radiograph case review. Some residents are permitted to teach didactic lectures to the veterinary students if they have an interest in teaching.

Briefly describe the nature and scope of the teaching file available to the resident(s) in this program and how it is maintained/updated.

The teaching file is added to continuously by case number as interesting cases come in, via a digital file.

How many Known Case Conferences are conducted annually? 24

Describe the nature and frequency of resident rounds ("other educational events") planned for this program. You may upload an example schedule with the general program schedule that is

requested at the end of this application.

Resident rounds occur daily, every day of the week from 8-930am, and if other rounds are going on, then 8-830am. These rounds include case review of interesting cases, asking for second opinion cases, book club, journal article review, and KCC.

Describe how the resident(s) in this program will attain direct and consistent medical library access and/or how they will access research tools and medical literature including the suggested references listed in the ACVR Preliminary Examination study guide.

Residents have access to the University of Guelph library. This gives them free access to many journal articles, and they can request free copies of most other journal articles through the library by request. Online textbooks and hardcopy textbooks are also available through this library.

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Evaluation and Protection of Residents

For existing programs, list the names, email contact information, and start/end dates of your current residents.

Oren Ofer, oofer@uoguelph.ca, August 2019-July 2023
Pablo Espinosa-Mur, espinosp@uoguelph.ca, August 2020-July 2024
Kevin Mitchell, kmitchel@uoguelph.ca, August 2021-July 2025
Julia Cusack, jcusack@uoguelph.ca, August 2021-July 2025

Did all of your current residents adequately complete the last 6 months of training?

Yes

List the current members of the resident review committee.

Ryan Appleby, Alex zur Linden

Describe the internal mechanisms in place at your institution to protect the resident(s) if personal or organizational conflicts arise. Include the management hierarchy for residents and procedures by which residents would report workplace misconduct.

Each resident has a DVSc committee which helps and directs the research project as well as progress through the residency. Clinical reviews are performed every 4 months by the DI faculty and feedback provided. If conflicts arise, these can be solved by the DI faculty, the DVSc committee members, or can go to the college level including the graduate studies department, or academic dean of research.

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Appendix

Please provide the following information regarding preliminary and certifying board exam pass rates for residents in your program over the past five years.

Preliminary Board Exam Pass Rate

2020

Number Of Prelim Board Eligible Residents: 2

Number of Residents That Took Prelim Exam: 2

Number of Residents That Passed On 1st Attempt:
1

Number of Residents That Passed After Multiple
Attempts: 1

Number of Residents That Have Not Passed: 0

2019

Number Of Prelim Board Eligible Residents: 0

Number of Residents That Took Prelim Exam: 0

Number of Residents That Passed On 1st Attempt:
0

Number of Residents That Passed After Multiple
Attempts: 0

Number of Residents That Have Not Passed: 0

2018

Number Of Prelim Board Eligible Residents: 1

Number of Residents That Took Prelim Exam: 0

Number of Residents That Passed On 1st Attempt:
1

Number of Residents That Passed After Multiple
Attempts: 0

Number of Residents That Have Not Passed: 0

2017

Number Of Prelim Board Eligible Residents: 0

Number of Residents That Took Prelim Exam: 0

Number of Residents That Passed On 1st Attempt:
0

Number of Residents That Passed After Multiple
Attempts: 0

Number of Residents That Have Not Passed: 0

2016

Number Of Prelim Board Eligible Residents: 1

Number of Residents That Took Prelim Exam: 1

Number of Residents That Passed On 1st Attempt:
1

Number of Residents That Passed After Multiple
Attempts: 0

Number of Residents That Have Not Passed: 0

Certifying Board Exam Pass Rate

2020

Number of Certifying Board Eligible Residents: 1

Number of Residents That Took Certifying Exam: 1

Number of Residents That Passed On 1st Attempt:
1

Number of Residents That Passed After Multiple
Attempts: 0

Number of Residents That Have Not Passed: 0

2019

Number of Certifying Board Eligible Residents: 0

Number of Residents That Took Certifying Exam: 0

Number of Residents That Passed On 1st Attempt:
0

Number of Residents That Passed After Multiple
Attempts: 0

Number of Residents That Have Not Passed: 0

2018

Number of Certifying Board Eligible Residents: 1

Number of Residents That Took Certifying Exam: 1

Number of Residents That Passed On 1st Attempt:
1

Number of Residents That Passed After Multiple
Attempts: 0

Number of Residents That Have Not Passed: 0

2017

Number of Certifying Board Eligible Residents: 0

Number of Residents That Took Certifying Exam: 0

Number of Residents That Passed On 1st Attempt:
0

Number of Residents That Passed After Multiple
Attempts: 0

Number of Residents That Have Not Passed: 0

2016

Number of Certifying Board Eligible Residents: 0

Number of Residents That Took Certifying Exam: 0

Number of Residents That Passed On 1st Attempt:
0

Number of Residents That Passed After Multiple
Attempts: 0

Number of Residents That Have Not Passed: 0

Program Schedule

Upload a schedule for your residents that outlines their clinical and non-clinical work over the course of the residency program. This may be a master schedule or duty roster for your entire radiology section, if desired. If available, an example weekly or monthly rounds schedule can also be included.

Program Schedule



2021-22 DI schedule.xlsx

Affiliation Agreements

Upload digital copies of any affiliation agreements that have not been included elsewhere in this document. Refer to the RPE document for an explanation of what information should be included in such agreements.