

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	Oregon State University
Residency Program Director Name	Stacy Cooley
Residency Program Director Email	stacy.cooley@oregonstate.edu

Program Type

What type of residency program is being requested?

Traditional Residency Program

If approved, what is the proposed start date of this residency program?

Sunday, January 1, 2023

Objectives

Succinctly state the objectives of the training program.

The residency program is designed to provide high-quality, in-depth clinical training in the areas of veterinary diagnostic imaging which will allow the resident to develop knowledge and clinical proficiency in the field and adequately prepare them to pass the examinations for ACVR diplomate status. The program will provide a comprehensive understanding of diagnostic radiology, including radiation safety, ultrasonography, computed tomography and magnetic resonance tomography as well as knowledge of the general principles and applications of nuclear medicine, radiation biology and radiotherapy. Additional rotations will occur remotely with IDEXX radiologists to provide telemedicine experience. The focus of the residency will be on small animals and equine patients; however, experience will also be gained with food animals and exotic species. The resident is expected to complete a clinical research project by the end of

the second year. The fourth year of the residency program is designed to encourage independence in case management and finalizing reports while in a supportive environment.

Training Period

What is the total length of the training program? 48

What is the anticipated length of supervised clinical training a resident will experience during this program? 38

Will the resident(s) in this program be eligible to take the ACVR Preliminary Exam in September of their third year?

Yes

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

The off clinic time is for scientific research, completion of an optional Master of Science degree, preparation for board examination and vacation.

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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? 26

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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: Lauren Newsom

Hours/Year: 26 weeks/ year

Specific Areas and/or Limitations of Instructional Responsibility: Radiography, ultrasonography, MRI, CT, NM

Institution: Oregon State University

Name: Susanne Stieger-Vanegas

Hours/Year: 26 weeks/ year

Specific Areas and/or Limitations of Instructional Responsibility: Radiography, ultrasonography, MRI, CT, NM

Institution: Oregon State University

Name: Idexx Radiologists

Hours/Year: 6 weeks/ year/ resident

Specific Areas and/or Limitations of Instructional Responsibility: Radiography, ultrasonography, MRI, CT

Institution: Idexx Telemedicine

Name: Alexandra Collins-Webb

Hours/Year: 13 weeks/year

Specific Areas and/or Limitations of Instructional Responsibility: Radiography, ultrasonography, MRI, CT, NM

Institution: Oregon State University

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 Erica McKenzie

ACVIM Member Institution Oregon State University

ACVIM Member Email erica.mckenzie@oregonstate.edu

ACVS Member Name Ingrid Balsa

ACVS Member Institution Oregon State University

ACVS Member Email ingrid.balsa@oregonstate.edu

ACVP Member Name Elena Gorman

ACVP Member Institution Oregon State University

ACVP Member Email elena.gorman@oregonstate.edu

Upload any affiliation agreement(s) with Supervising Diplomates, Supporting Diplomates, or Diplomates in other specialties that are located at external institutions. (see Affiliation Agreement section at the end of this application.) Refer to the RPE document for an explanation of what information should be included in such agreements.



OSU Affiliation agreement.pdf

Upload any affiliation agreement(s) with Supervising Diplomates, Supporting Diplomates, or Diplomates in other specialties that are located at external institutions. (see Affiliation Agreement section at the end of this application.) Refer to the RPE document for an explanation of what information should be included in such agreements.



OSU Affiliation with SVI.pdf



SVI affiliation OSU.pdf

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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?

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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

Yes

Fluoroscopy

Yes

Ultrasound with Doppler Capability

Yes

MRI

Yes

Fan-beam CT

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)

Small Animal compatible equipment:

1. Computed radiography in 2 designated radiography rooms
2. 64-slice multi-detector row computed tomography with Vitrea work station

3. Toshiba Aplio 500 ultrasound system including 3D, Elastography capability and 6 transducers
4. Hitachi Aloka mobile ultrasound system used for post-CT evaluations and FNA
5. Sonoscape S9 (4 units in the VTH, 1 housed in imaging for student teaching, post-radiographic evaluation and FNA purposes)
6. Mobile C-arm (2) for use in surgery suites and interventional cardiac studies
7. Nuclear imaging (IS2 gamma camera) with PC based Mirage software
8. Mobile (trailer) 1 Tesla MRI unit

Large Animal compatible equipment:

1. Digital radiography in 1 designated large animal radiography room including a Siemens tube head, ceiling-mounted x-ray tube with linked Bucky
2. 64-slice multi-detector row computed tomography with equine table and Vitrea workstation
3. Portable digital radiography system with a portable x-ray unit and one high-output mobile unit
4. Mobile C-arm for use in surgery suite
5. Hitachi Aloka mobile ultrasound system used for post-CT evaluations and FNA
6. Sonoscape S9 (4 units in the VTH, 1 housed in imaging for student teaching, post-radiographic evaluation and FNA purposes)
7. Nuclear imaging (IS2 gamma camera) with PC based Mirage software
8. Mobile (trailer) 1 Tesla MRI unit: only available for large animals < 250lb

Image review:

1. Five medical grade monitor computer work stations equipped with 2-4 Double Black 3MP monitors with NovaRad DICOM viewer software
2. PACS image storing system in house and offsite
3. Web-based off-site image access

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

Residents will gain experience primarily through weekly topic rounds, attended by faculty and senior residents, with the primary focus on physics of medical imaging. Residents will also gain experience via literature review in twice monthly journal club discussions. As the caseload dictates, residents also help with patient image acquisition, mostly in small animal radiography.

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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. 14200

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. 5440

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

Small animal radiology 1990

Large animal radiology	1160
Abdominal ultrasound	715
Non-abdominal ultrasound	170
Computed tomography	1285
Magnetic Resonance Imaging	22
Nuclear scintigraphy	2
Other (Specify)	Fluoroscopy-30

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

Small animals (canine, feline): 70

Large animals (equine, bovine, porcine, etc.): 29

Avian, Exotic, and Wildlife animals: 1

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?

100

What percentage of the preliminary reports generated from the imaging caseload are initially produced by the resident(s) in this program? 98

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?

Most reports are finalized in < 24 hours. Longer report turnaround time mostly occurs over the weekend.

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? 85

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

Most reports generated by residents Friday afternoon or over the weekend are finalized Monday morning, or Tuesday, if Monday is a holiday.

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 2000

Large animal radiology 1200

Abdominal ultrasound 750

Non-abdominal ultrasound 175

Computed tomography 1300

Magnetic resonance Imaging 25

Nuclear scintigraphy 3

Other (specify) Fluoroscopy - 30

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.

750

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

No

Radiobiology

No

Nuclear Medicine

No

Ultrasonography

No

Computed Tomography

No

Magnetic Resonance Imaging

No

Other

No

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.

None

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?

No

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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) 5

How many peer-reviewed publications are expected of a resident completing the program? 1

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.

Yes, residents are encouraged to engage in investigative work during the residency program. All supporting faculty have a portion of their FTE dedicated to scholarly activity, which includes research.

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.

Each resident is expected to give 1 formal presentation based on their research project during the residency.

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

Residents teach fourth year rotation students in case-based rounds and pre-clinical students in a variety of informal presentations, case-based rounds and an annual ultrasonography wet-lab, in collaboration with the student Radiology Club.

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 an online excel document that we add to weekly with space for final diagnosis if patient has surgery or a necropsy is performed.

How many Known Case Conferences are conducted annually? 20

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.

Learning activities include alternating KCC and journal club on Mondays, topic rounds (with emphasis on the physics of medical imaging) on Thursdays and case-based rounds on Tuesdays, Wednesdays and Fridays.

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.

We have an extensive collection of textbooks in our reading room, which we add to frequently, based on requests from faculty and residents. We have an on-site library at the college. Residents have access to a large number of journals and are able to request any articles not available through university subscriptions via interlibrary loan.

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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.

Alexandra Collins-Webb, 4th year, alexandra.collinswebb@oregonstate.edu

John Dwan, 4th year, john.dwan@oregonstate.edu

Kelley VanScoyk, 2nd year, kelley.vanscoyk@oregonstate.edu

Eleanor Anderson, 1st year, eleanor.anderson@oregonstate.edu

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

Yes

List the current members of the resident review committee.

Stacy Cooley DVM DACVR (residency director), Lauren Newsom DVM

DACVR, Susanne Stieger-Vanegas DVM DECVDI, Idexx radiologists, survey to clinical faculty at Oregon State

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.

House Officer Oversight Committee, 5-6 faculty members from various clinical science services

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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: 2022 = 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

2019

Number Of Prelim Board Eligible Residents: 2021 = 3

Number of Residents That Took Prelim Exam: 3

Number of Residents That Passed On 1st Attempt: 2

Number of Residents That Passed After Multiple Attempts: 1

Number of Residents That Have Not Passed: 0

2018

Number Of Prelim Board Eligible Residents: 2020 = 1

Number of Residents That Took Prelim Exam: 1

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: 1

2017

Number Of Prelim Board Eligible Residents: 2019 = 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: 0

Number of Residents That Have Not Passed: 1

2016

Number Of Prelim Board Eligible Residents: 2018 = 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

Certifying Board Exam Pass Rate

2020

Number of Certifying Board Eligible Residents: 2022 = 3

Number of Residents That Took Certifying Exam: 3

Number of Residents That Passed On 1st Attempt: 2

Number of Residents That Passed After Multiple Attempts: 0

Number of Residents That Have Not Passed: 1

2019

Number of Certifying Board Eligible Residents: 2021
= 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: 2020
= 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: 2019
= 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: 2018
= 1

Number of Residents That Took Certifying Exam: 1

Number of Residents That Passed On 1st Attempt: 0

Number of Residents That Passed After Multiple
Attempts: 1

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



Resident Clinical Schedulesxlsx

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.



OSU Supplemental Caseload.pdf