

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	Ohio State University
Residency Program Director Name	Eric Hostnik
Residency Program Director Email	hostnik.1@osu.edu

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?	Saturday, July 15, 2023
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Objectives

Succinctly state the objectives of the training program.

1. The radiology residency program at The Ohio State University, College of Veterinary Medicine is designed to provide postdoctoral clinical training that will fulfill the requirements of the American College of Veterinary Radiology (ACVR) and result in eligibility to apply for the qualifying examination of the ACVR.
2. The resident will receive training in all of the subspecialty areas of veterinary radiology including routine and special procedures in small and large animal diagnostic radiology, diagnostic ultrasound, nuclear medicine, computed tomography, and magnetic resonance imaging. Training will allow the graduates of the program to perform in either an academic or specialty practice environment.

Training Period

What is the total length of the training program? 36

What is the anticipated length of supervised clinical training a resident will experience during this program? 36

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 residents are expected to be good citizens of the hospital, conduct clinical research, preliminary/certifying board preparation, and to be engaged when enrolled in course work like journal club and book club.

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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? 24

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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 Diplomat' 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: Eric Green

Hours/Year: 1440

Specific Areas and/or Limitations of Instructional Responsibility: All aspects of training

Institution: Ohio State University

Name: Rebecca Urion

Hours/Year: 1248

Specific Areas and/or Limitations of Instructional Responsibility: All aspects of training

Institution: Ohio State University

Name: Amy Habing

Hours/Year: 768

Specific Areas and/or Limitations of Instructional Responsibility: All aspects of training

Institution: Ohio State University

Name: Kate Sippel

Hours/Year: 576

Specific Areas and/or Limitations of Instructional Responsibility: All aspects of training

Institution: Ohio State University

Please list all training diplomates who will act as Supporting Diplomates of this residency program. Indicate how many hours per year each Supporting Diplomate will be scheduled on clinical duty with primary support of residents and any specific areas of instructional responsibility and/or limitations in the scope of this support (e.g. only trains residents in ultrasound, does not participate in large animal training, does not finalize imaging reports, etc).

Name: Kim Mulligan

Hours/Year: 208

Specific Areas of Instructional Responsibility:
Primarily small animal ultrasound

Institution: Ohio State University (recurrent locum)

Name: Angela Marolf

Hours/Year: 108

Specific Areas of Instructional Responsibility:
Small animal diagnostic imaging

Institution: Ohio 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	Julie Byron
ACVIM Member Institution	Ohio State University
ACVIM Member Email	byron.7@osu.edu
ACVS Member Name	Jon Dyce
ACVS Member Institution	Ohio State University
ACVS Member Email	dyce.1@osu.edu
ACVP Member Name	Ryan Jennings
ACVP Member Institution	Ohio State University
ACVP Member Email	jennings.398@osu.edu

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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? 9

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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	<input type="text" value="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)

Within the Veterinary Medical Center at The Ohio State University include the following: 2 small x-ray rooms, 2 large animal x-ray rooms, 1 fluoroscopy suite, 1 multidetector CT scanner (GE Revolution EVO), 1 nuclear medicine suite, and one 3T MRI suite (Philips 3T Ingenia). Our CT and MR can accommodate large and small animals. In-house PACS.

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

Small animal and large animal x-ray rooms: Residents are required to train for 2 weeks at the start of the residency in the x-ray suites. Residents are encouraged to periodically be involved in image acquisition for more complex cases. Residents are frequently involved in discussions for image acquisition in large animal.

Fluoroscopy: Residents are trained to use the fluoroscopy unit. Are directly involved in the contrast studies.

Multidetector CT scanner (GE Revolution EVO): two weeks of training when starting the modality. Residents are required to be proficient to run the CT unit after hours.

3T MRI suite (Philips 3T Ingenia): Residents supervise the MRI technicians during study planning and acquisition during the later half of second year and third year.

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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.

36100

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.

20000

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

Small animal radiology

16500

Large animal radiology

350

Abdominal ultrasound

3300

Non-abdominal ultrasound

50

Computed tomography

2000

Magnetic Resonance Imaging

450

Nuclear scintigraphy

50

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

Small animals (canine, feline): 85

Large animals (equine, bovine, porcine, etc.): 13

Avian, Exotic, and Wildlife animals: 2

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

Explain how the resident(s) in this program will gain experience in any of the above types of imaging cases that are NOT available at the primary institution. Provide affiliation agreements, if applicable. (see Affiliation Agreement item at the end of this section).

n/a

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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?

100

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?

After hours/weekend/holiday cases are primarily covered by residents with faculty support. All after hours/weekend/holiday cases will receive a preliminary report within 24 hours unless the primary

service calls for more urgent cases. If the primary service calls then a report is generated within 30 minutes. When residents work a weekend on-call shift, they are provided an off clinic day during the week.

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	0
Large animal radiology	0
Abdominal ultrasound	0
Non-abdominal ultrasound	0
Computed tomography	0
Magnetic resonance Imaging	0
Nuclear scintigraphy	0
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.	900

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	Yes
Nuclear Medicine	Yes
Ultrasonography	Yes
Computed Tomography	Yes

Magnetic Resonance Imaging

Yes

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.

Radiobiology VCS 8896
Ultrasonography VCS 8871
Adv La Med Hemeonc VCS 8844.05
AdvVetLASurgUrogen VCS 8855.01
Eq Musculus Imag VCS 8822.13
AdvVetIntMedOnco1 VCS 8822.07
ACVIM North American Neuroscience Course (Brain Camp)
Nuclear Medicine Short Course – Online CE

Informal book clubs for radiology physics.

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?

Residents have the option for a MS.

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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? 100

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.

At the beginning of the residency there is a planning meeting to discuss topics and potential projects. Residents are encouraged to develop a topic. Residents then work with faculty to develop a hypothesis driven project. Ohio State University teleradiology generates funds to conduct research. One journal club a month is focused on research projects of the residents.

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.

Three presentations are expected. The presentations can involve:

- 1) ACVR presentation.
- 2) Radiology club lectures.
- 3) Presenting and leading an equine MRI topic that involves multiple institutions and collaboration with services.
- 4) Technician learning lectures.
- 5) Ohio State research day.

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

Residents are expected to participate and lead student rounds. Clinical students are in the reading room, residents are expected to involve students in cases and utilize the clinic floor to teach. Residents will rotate with faculty for didactic lectures for the radiology club. Residents are asked to provide learning lectures for technicians. Residents do not teach in the core curriculum for Ohio State University.

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 PACS server maintains an electronic record of all cases. The PACS is a searchable tool based on keywords. The electronic medical record system provides simultaneous review of patient information to review alongside the imaging studies. Faculty will code cases that are good teaching cases and potential KCC cases. The teaching profile involve small animal, large animal, and exotic cases in all modalities (except PET/CT).

How many Known Case Conferences are conducted annually? 30

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 occurs every weekday 9:00 am to 10:30 am. Cases that are finalized outside this time are discussed with the resident(s) directly or via an online communication platform (depends on whether resident in on clinics or not).

Monday 8:00 - 9:00 am - Physics book club

Tuesday 8:00 - 9:00 am - Faculty meeting and residents will do rotating book club (Thrall, Mai, Wisner, etc)

Wednesday 8:00 - 9:00 am - Special interest topic rounds like zoo imaging rounds

Thursday 8:00 - 9:00 am - Journal club

Friday 8:00 - 9:00 am - 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.

Ohio State University has an extensive online library with journal and textbook subscriptions. There is also physical veterinary medical library on the veterinary college campus. Ohio State University will utilize teleradiology funds to purchase digital books for resources.

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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 Scharf, scharf.54@osu.edu, July 15, 2020 - July 14, 2023
Jocelyn Wichtel, wichtel.1@osu.edu, July 15, 2020 - July 14, 2023
Andrew Leffler, leffler.58@osu.edu, July 15, 2021 - July 14, 2024
Simone March, march.79@osu.edu, July 15, 2021 - July 14, 2024
Jorge Santana-Mignucci, santanamignucci.1@osu.edu, July 15, 2021 - July 14, 2024
Lelia Barden, barden.24@osu.edu, July 15, 2022 - July 14, 2025
Elliot Grossman, grossman.270@osu.edu, July 15, 2022 - July 14, 2025
Nathan Latus, latus.5@osu.edu, July 15, 2022 - July 14, 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.

Eric T. Hostnik, DVM, MS, DACVR-DI, DACVR-EDI
Eric Green, DVM, DACVR-DI, DACVR-RO
Rebecca Urion, DVM, MAg, DACVR-DI, DACVR-EDI
Amy Habing, DVM, DACVR-DI
Kate Sippel, DVM, DACVR-DI
Denise Bailey Head Technician

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 is assigned a faculty advisor.
- Individual within the department administration that helps to organize resident needs including an anonymous contact
- Two resident representatives at the department post-professional education committee
- Residents have access to emergency mental health services and five free meetings through the Employee Assistance Program.

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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: 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

2019

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

2018

Number Of Prelim Board Eligible Residents: 2

Number of Residents That Took Prelim Exam: 2

Number of Residents That Passed On 1st Attempt:
2

Number of Residents That Passed After Multiple
Attempts: n/a

Number of Residents That Have Not Passed: 0

2017

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: n/a

Number of Residents That Have Not Passed: 0

2016

Number Of Prelim Board Eligible Residents: 2

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: 1

Number of Residents That Have Not Passed: 0

Certifying Board Exam Pass Rate

2020

Number of Certifying Board Eligible Residents: 2

Number of Residents That Took Certifying Exam: 2

Number of Residents That Passed On 1st Attempt:
2

Number of Residents That Passed After Multiple
Attempts: n/a

Number of Residents That Have Not Passed: 0

2019

Number of Certifying Board Eligible Residents: 2

Number of Residents That Took Certifying Exam: 2

Number of Residents That Passed On 1st Attempt:
2

Number of Residents That Passed After Multiple
Attempts: n/a

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: n/a

Number of Residents That Have Not Passed: 0

2017

Number of Certifying Board Eligible Residents: 2

Number of Residents That Took Certifying 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

2016

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: n/a

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.

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.