

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	University of Wisconsin-Madison
Residency Program Director Name	Kenneth Waller, III
Residency Program Director Email	kenneth.waller@wisc.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? Friday, July 14, 2023

Objectives

Succinctly state the objectives of the training program.

The objectives of this training program are to prepare the trainee for the ACVR preliminary and certifying examinations and subsequent academic appointment or private specialty practice. Training is provided in small animal, large animal, and exotic animal species as well as research and publication, vacation

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? 32

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?

Clinical research, mentored/supervised teaching, didactic rotations in radiation oncology, cardiology, dentistry, participation in board preparation rounds, imaging rounds, known case conference, book and journal club, medical physics and radiobiology coursework

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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: Samantha Loeber, DVM, DACVR-DI, DACVR-EDI

Hours/Year: 1040

Specific Areas and/or Limitations of Instructional Responsibility: All modalities and species

Institution: University of Wisconsin-Madison

Name: Lisa Forrest, VMD, DACVR-DI, DACVR-RO

Hours/Year: 520

Specific Areas and/or Limitations of Instructional Responsibility: All modalities and species, Radiation Oncology

Institution: University of Wisconsin-Madison

Name: Darrel Yap, DVM, DACVR

Hours/Year: 1040

Specific Areas and/or Limitations of Instructional Responsibility: All modalities and species

Institution: University of Wisconsin-Madison

Name: Sara Tolliver, DVM, DACVR

Hours/Year: 1040

Specific Areas and/or Limitations of Instructional Responsibility: All modalities and species

Institution: University of Wisconsin-Madison

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: Kenneth R. Waller III, DVM, MS, DACVR

% of Hours: 70

Specific Areas of Instructional Responsibility: No limitations

Institution: University of Wisconsin-Madison

Name: Samantha Loeber, DVM, DACVR-DI, DACVR-EDI

% of Hours: 70

Specific Areas of Instructional Responsibility: No limitations

Institution: University of Wisconsin-Madison

Name: Lisa Forrest, VMD, DACVR-DI, DACVR-RO

% of Hours: 65

Specific Areas of Instructional Responsibility: No limitations additional radiation oncology support

Institution: University of Wisconsin-Madison

Name: Darrel Yap, DVM, DACVR

% of Hours: 70

Specific Areas of Instructional Responsibility: No limitations

Institution: University of Wisconsin-Madison

Name: Sara Tolliver, DVM, DACVR

% of Hours: 70

Specific Areas of Instructional Responsibility: No limitations

Institution: University of Wisconsin-Madison

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: Jane Lund, DVM, MS, DACVR-DI, DACVR-EDI

Hours/Year: 200

Specific Areas of Instructional Responsibility: No limitations, Additional Equine imaging support

Institution: University of Wisconsin-Madison (locum)

Name: Seamus Hoey, DACVR-DI, DACVR-EDI, ECVDI

Hours/Year: 120

Specific Areas of Instructional Responsibility: No limitations, Additional Equine imaging support

Institution: University of Dublin

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

Helena Rylander

ACVIM Member Institution

University of Wisconsin-Madison

ACVIM Member Email

helena.rylander@wisc.edu

ACVS Member Name

Robert Hardie

ACVS Member Institution	University of Wisconsin-Madison
ACVS Member Email	robert.hardie@wisc.edu
ACVP Member Name	Kristen Friedrichs
ACVP Member Institution	University of Wisconsin-Madison
ACVP Member Email	kristen.friedrichs@wisc.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? 8

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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)

The radiology section has three small animal diagnostic radiology rooms, one of which is a digital fluoroscopic room with an overhead 800 mA tube. The second contains an overhead 800 mA tube and the third contains a floating table and 500 mA tube. All three rooms contain digital (DR) detector panels. The separate large animal imaging suite contains a 800 mA tube with a ceiling mounted motorized tube stand and integrated ceiling mounted cassette stand with DR panel and a portable x-ray machine and DR plate for distal extremity and in-install radiography.

Ultrasonography equipment includes two LOGIQ E9, four LOGIQe's housed respectively in two ultrasound suites and the CT suite. Fundamental B-mode imaging, tissue harmonics, contrast harmonics, navigation and fusion, elastography, 4D, Doppler (pulsed, power, spectral and color) and high frequency transducers are available.

Computed tomography (8-slice MDCT) and nuclear imaging suites are located adjacent to the described rooms containing within the imaging section. Standing Large Animal CT (Astro). A 1.5 tesla MR unit is housed within a modular building adjacent to the teaching hospital and a 3T GE Sigma Premier MRI will be operational 3/2023. 16-Slice GE RO CT scanner will be operational 3/2023. PET/CT (GE Omni) will be installed 2024

Nuclear imaging equipment consists of a 20" rectangular field of view gamma camera with dynamic imaging capability and analysis.

Radiotherapy is provided by a Tomotherapy facility within the hospital. Radioactive iodine therapy for hyperthyroid cats is also provided.

All modalities are integrated with PACS, RIS and HIS.

A 3 tesla MR, 1.5 tesla MR, advanced CT, PET/CT and flat panel CT are available for clinical and research use at the Wisconsin Institutes for Medical Research (WIMR), which is 4 blocks away.

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

Working side by side with certified RT(R), RDMS technologists (total of 9) and faculty in all modalities for image acquisition and protocol set-up

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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. 29400

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. 11000

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

Small animal radiology	7000
Large animal radiology	1000
Abdominal ultrasound	2000
Non-abdominal ultrasound	500

Computed tomography	1000
Magnetic Resonance Imaging	400
Nuclear scintigraphy	30
Other (Specify)	300 (Fluoroscopy)

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

- Small animals (canine, feline): 50
- Large animals (equine, bovine, porcine, etc.): 25
- Avian, Exotic, and Wildlife animals: 25

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	No

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).

Faculty are also performing teleradiology work and will share cases and hold discussions on teleradiology imaging during case rounds and known case conferences

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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? 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? 90

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

Same day, less than 8 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? 100

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

Resident is primary on-call and backed up by at least two faculty for consult. All cases are completed and finalized by UW resident/faculty next business day.

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	3000
Large animal radiology	430
Abdominal ultrasound	860
Non-abdominal ultrasound	215
Computed tomography	430
Magnetic resonance Imaging	200
Nuclear scintigraphy	13
Other (specify)	Fluoroscopy - 60

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. 1050

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

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.

Physics of Diagnostic Imaging and Radiation Biology are provided by UW School of Medicine and Medical Physics and are joint with MD residents in training. Additional course work, primarily online/on demand for additional CT, MRI and Nuclear medicine which is covered in the courses with MD residents. Radiobiology (course number 410), 27 lectures, Diagnostic radiology, 27 lectures, Nuclear medicine (7 lectures), ultrasound (7 lectures), CT (5 lectures), MRI (9 lectures)

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) 15

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? 25

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.

We hold periodic research meetings to discuss current and future projects and residents are supported and encouraged to participate in clinical research with a training diplomate providing mentorship on a particular project. All are encouraged to apply for companion animal funding (internally) as well as ACVR resident grants. Currently, all residents are participating in at least one research project (more commonly two) which will result in a manuscript for publication. We do not want to overload residents with too many projects so we keep current commitments to 2 projects and will provide additional opportunities upon submission/completion of a project

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.

We expect at least 14 presentations by each residents during the source of their training., which include didactic lectures and laboratories to DVM students, topic rounds presentations within the imaging, radiation oncology, and neurology sections (seminars) as well as participation in continuing education with practicing DVM's

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

Lectures, presentations, and laboratories to DVM students, topic rounds presentations within the imaging, radiation oncology, and neurology sections (seminars) as well as participation in continuing education with practicing DVM's

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

Separate teaching files are maintained for veterinary students and radiology residents. Additional

radiology teaching sets and patient file coding systems are in place to assist residents and faculty members for presentations or studying purposes of historical (films and electronic) files. The electronic coding system is based on chapter designations in the Thrall text. Seminar and lecture presentations are stored electronically and available to residents. All residents and faculty contribute to the electronic teaching file by recording teaching quality studies daily, which are maintained in the indexed digital file on the PACS. Resident seminars are filed in a shared network drive.

How many Known Case Conferences are conducted annually? 52

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.

Weekly rounds schedule:

Monday - Journal club (relevant board topics)

Tuesday - Book chapter review

Wednesday - Known Case Conference

Thursday - Imaging case rounds (open discussion of interesting cases) or Orthopedic rounds with LA and SA orthopedic surgery

Friday - Topic rounds (formal presentation) or MRI rounds (similar to KCC format) with neurology and radiation oncology

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.

Online and physical access to library provided by University of Wisconsin. Nearest medical library is 4 blocks from the training program. Maintain internal library in the reading room of relevant textbooks and PDFs on shared network drive

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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.

Kate Jones, kjones33@wisc.edu, 7/15/20-07/14/23

Alexandra Radtke, avradtke@wisc.edu, 7/15/20-07/14/23

Victoria Riggs, vriggs2@wisc.edu, 07/15/21-07/14/24

Jessica Wild, jwild4@wisc.edu, 07/15/21-07/14/24

Katherine Weber, kweber29@wisc.edu, 07/15/21-07/14/24

Kaylynn Veitch, kaylynn.veitch@wisc.edu, 07/15/22-07/14/25

Kaui Zukeran-Kerr, zukerankerr@wisc.edu, 07/15/22-07/14/25

Neil Christensen, neil.christensen@wisc.edu, 01/01/23-01/01/26

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

Yes

List the current members of the resident review committee.

Lisa Forrest, VMD, DACVR (R and RO)

Samanthana Loeber, DVM, DACVR-DI, DACVR-EDI

Sara Tolliver, DVM, DACVR

Darrel Yap, DVM, DACVR

Ken Waller, DVM, MS, DACVR

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.

Listed in order of escalation, i.e. if unresolved next level will be attempted:

Discussion between resident and party with whom the conflict exists

Mediation by resident advisor and/or residency director

Mediation by Department Chair

Mediation by Hospital Director

Mediation, remedy, or appeal to Clinical Training and Education Committee within the School of Veterinary Medicine, University of Wisconsin.

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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: 2

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:
2

Number of Residents That Passed After Multiple Attempts: 0

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: 0

Number of Residents That Have Not Passed: 0

2017

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: 0

Number of Residents That Have Not Passed: 0

2016

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: 0

Number of Residents That Have Not Passed: 0

Certifying Board Exam Pass Rate

2020

Number of Certifying Board Eligible Residents: 3

Number of Residents That Took Certifying Exam: 3

Number of Residents That Passed On 1st Attempt:
1

Number of Residents That Passed After Multiple
Attempts: 2

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: 0

Number of Residents That Have Not Passed: 0

2018

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: 0

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:
2

Number of Residents That Passed After Multiple
Attempts: 0

Number of Residents That Have Not Passed: 0

2016

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: 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



DRAFT Master Jan23-Jul23_... .pdf

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.