



RESIDENCY TRAINING PROGRAM REGISTRATION
2019-2020
CARDIOLOGY

Part One

New applications for ACVIM Residency Training Programs must be received by the Residency Training Committee (RTC) 90 days prior to any residents beginning training. Before completing this form, please review the general and specific requirements for Cardiology Residency Training Programs in the ACVIM Certification Manual (CM). The current version of the CM is available on the ACVIM website at www.ACVIM.org.

Prior to making significant changes in a residency training program, approval of the ACVIM and Cardiology RTC must be obtained. The Candidate and/or Program Director must notify ACVIM, in writing before the changes are made to ensure that the proposed changes are approved. Significant changes could include, but are not limited to the following: changes in Program Director or advisors, transferring from one program to another, alterations in program duration, locations of secondary site training, switching to a 'dual board' program or enrolling in an institutional graduate program.

Notice: The data collected in this form is necessary both for the ACVIM to maintain its accreditation as a Registered Veterinary Specialty Organization and also is required for renewal of the residency training program. Some of the data collected is required of every specialty and some is specific to the specialty of Cardiology.

For multi-site residency programs: To ensure uniformity of training and compliance with current CM requirements, training programs that include multiple sites must provide detailed information regarding supervision and facilities available at each specific site(s). Multi-site programs, if any, will be addressed by the Program Director in Part Two.

Program Director Name:

Must be an active Diplomate of ACVIM in the Specialty of Cardiology or an approved ECVIM Diplomate in Cardiology

Program Director's Contact Information:

Work Phone:	<input type="text" value="(919) 513-6238"/>
Mobile Phone:	<input type="text"/>
E-mail:	<input type="text" value="Bruce_Keene@ncsu.edu"/>
Mailing Address:	<input type="text" value="CVM, Randall Terry VMC
1052 William Moore Dr.
Raleigh, NC 27606"/>

1. Location of Sponsoring Institution (Primary Site of Residency Training Program):

Primary Site Location:	Length of Training Program:
<input type="text" value="North Carolina State University"/>	<input type="text" value="3 year"/>

2. Resident Advisor(s): Must be a Diplomate of ACVIM in the Specialty of Cardiology or an approved ECVIM Diplomate in Cardiology. There is no restriction on the number of Resident Advisors; however, each Resident Advisor can supervise up to two residents concurrently.

<input type="text" value="Bruce Keene
Sandra Tou
Teresa DeFrancesco"/>
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3. Supervising Diplomate(s) on-site: Must be an active Diplomate of ACVIM in the Specialty of Cardiology or an approved ECVIM Diplomate in Cardiology.

<input type="text" value="Clarke Atkins - Cardiology
John Bonagura - Cardiology"/>
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Teresa DeFrancesco - Cardiology
 Bruce Keene - Cardiology
 Kathryn Meurs - Cardiology
 Sandy Tou - Cardiology

4. Diplomates of ACVIM responsible for supervision of clinical training who specialize in areas other than Cardiology. If off-site, please explain the situation, and the method of providing direct contact with the resident.

Name and Specialty	Comments
Edward Breitschwerdt - SAIM Jody Gookin - SAIM Karyn Harrell - SAIM Eleanor Hawkins - SAIM Shelly Vaden - SAIM Adam Birkenheuer - SAIM Katharine Lunn - SAIM Karen Tefft - SAIM	

5. Residents currently participating in your training program, along with the beginning date of the program, expected ending date of the program, and designated resident advisor. All current residents and incoming residents (if known) should be listed here. Unless specifically approved, in advance, by the CRTCC, the ratio of cardiology residents to on-site Cardiology Diplomates who are actively involved in resident training cannot exceed 2 to 1.

Resident Name	Start date (mm/dd/yyyy)	End Date (mm/dd/yyyy)	Resident Advisor Name*
Lara Barron 7.15.17 - 7.15.20 (Sandra Tou) Anna McManamey 7.19.18 - 7.20.21 (Teresa DeFrancesco)			



American College of **Veterinary** Internal Medicine

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Part Two

Part Two of the Cardiology Residency Training Program addresses general features that apply to all current residents. These questions will be used to provide the Residency Training and Credentials Committees with information needed to judge the structure, quality, scope, and consistency of training provided. (Part Three must be completed and submitted for each resident.)

Current Date:

Program Director Name:

(Must be a Diplomate of ACVIM in the Specialty of Cardiology or an approved ECVIM Diplomate in Cardiology)

Name of Sponsoring Institution (Residency Training Program):

1. Please list **all Diplomates of the American College of Veterinary Pathology and the European College of Veterinary Pathology** in the areas of clinical pathology or gross/histopathology associated with residency training. If off-site, please explain the situation, and the method of providing direct contact with the resident.

Name of Diplomate(s)	Clinical or Gross	ACVP or ECVP	Comments
John Cullen	Gross	ACVP (all)	
Heather Shive	Gross		
Jenn Luff	Gross		
Luke Borst	Gross		
Mack Law	Gross		
Keith Linder	Gross		
Carol Grindem	Clinical		
Jennifer Neel	Clinical		

2. Please list **all Diplomates of the American College of Veterinary Radiology and European College of Veterinary Diagnostic Imaging** associated with residency training. If off-site, please explain the situation, and the arrangements for direct contact with the resident.

Name of Diplomate(s)	ACVR or ECVDI	Comments
Eli Cohen	ACVR (all)	
Ian Roberson		
Gabriella Seiler		
Katelyn Cordle		
Erin Keenihan		
Nathan Nelson		
Nicholas Petrovitch		

3. Please list all Diplomates of the American College or equivalent European colleges of Dermatology, Surgery, Ophthalmology, Anesthesiology, ECC, clinical nutrition, clinical pharmacology, and/or theriogenology associated with residency training. . If off-site, please explain the situation and the arrangements provided for contact with the resident.

Name of Diplomat(e)s	Specialty	Comments
Thierry Olivry	Dermatology	
Marcy Murphy	Dermatology	
Petra Bizkova	Dermatology	
Kyle Mathews	Surgery	
Marine Traverson	Surgery	
Valerie Scharf	Surgery	
Duncan Lacelles	Surgery	
Daniel Duffy	Surgery	
Kate Baily	Anesthesiology	
Lisa Posner	Anesthesiology	
Kristen Messenger	Anesthesiology	
Julie Balko	Anesthesiology	
Bernie Hansen	ECC	
Sarah Musulin	ECC	
Alessio Vigani	ECC	
Alex Lynch	ECC	
Mark Papich	Clinical Pharmacology	
Scott Bailey	Theriogenology	
Sara Lyle	Theriogenology	

4. Please indicate the availability of the following facilities or equipment. Indicate if these are available on-site at the primary training site, or at a different location. (In the Location column, indicate on-site for primary location or the name of the facility where the equipment is located if off-site.) For facilities that are not on-site, please describe the situation and availability in the space at the end of this section. See CM 5.D for details.

	Available?		Location of equipment? (On-site or list site name)
	Yes	No	
a) Blood pressure equipment (must be on site)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	all on site
b) Cardiac catheterization capability (must be on-site)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
c) Echocardiography equipment (must be on-site)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
d) Fluoroscopy (must be on site)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
e) Pacemaker interrogation (must be on site or available off-site)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
f) Standard radiological equipment (must be on-site)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
g) Electrocardiography (must be on-site)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
hi) Brainstem Auditory Evoked Response Equipment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
i) Clinical Pathology capabilities: (includes CBC, serum chemistries, blood gases, urinalysis, cytology, parasitology, microbiology, endocrinology, anatomic and histopathology)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
j) Colloid oncotic pressure measurement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
k) Computed Tomography	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

l) Electroencephalography	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
m) Electromyography	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
n) Endoscopy equipment			
GI equipment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Bronchoscopy	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Cystoscopy	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Rhinoscopy	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Laparoscopy	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
o) Hemodialysis capability	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
p) Intensive Care Facility – 24 hours	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
q) Magnetic Resonance Imaging	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
r) Nuclear Medicine [access is desirable]	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
s) Radiation Therapy Facility	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
t) Serum osmolality measurement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
u) Total parenteral nutrition capability	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
v) Ultra sonographic equipment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
w) Urethral pressure profile & cystometrography	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
x) Computerized Medical Records w/Searching Capabilities	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
y) Medical Library w/Literature Searching Capabilities	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
z) Veterinary Library w/Literature Searching Capabilities	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

If any of the above equipment or facilities are available off-site, please explain how the resident can access them for case management, research, or study.

5. Clinical caseload information (this information should reflect the caseload of the prior 12 months at the primary site)

Total Cardiology caseload per year:	2500
Number of echocardiographic examinations per year:	4200
6. Number of cardiac catheterizations per year:	100

Didactic Learning Opportunities and Research Requirements: In recognition of the importance of scientific discovery as a critical mission of the ACVIM, all Residency Training Programs shall include an assessment period or instruction and/or participation in creative scholarship which will foster an appreciation of, competency in, and contribution to the knowledge base of their respective specialty and which will support their development as clinician scientists. This requirement is fulfilled through satisfactory completion of A, B and one of C [See CM 5.E and 5.F]:

A. Journal Club: Critical review of literature, minimum of eighty (80) hours during the program. Describe how this requirement is met or exceeded.

1 hour per week

B. Cardiology-focused Educational Experiences: Minimum of one hundred fifty (150) hours during the program. Describe how this requirement is met or exceeded. [See CM 5.E.2]

1 hour daily x 3 years:
Monday - alternation of " great case rounds" with all 6 boarded cardiologists and residents, and specific topic-based board prep rounds that rotate among faculty and residents (1 hour); Tuesday - book and journal club; Weds: Internal medicine rounds / General exam board prep rounds; Thursday: house officer seminar series (residents present 2 and attend all (75% participation required); Friday: Cardiology / ECC house officer rounds presented by cardiology / ecc faculty.

C. Successful completion of any one of the options listed below. Describe how this will be fulfilled or exceeded in the individual trainee's specific application.

1. Successful completion of at least two (2) of the following three (3) short courses/workshops offered by ACVIM either on-line or at the Forum:
 - A. Critical evaluation of veterinary medical/biomedical literature

- B. Grant Writing
- C. Study, design and participation in clinical trials
- 2. Documented submission of a grant proposal (by advisor letter)
- 3. Acceptance and presentation at a scientific meeting of an abstract (oral or poster) of original work
- 4. Documented completion (by advisor letter) of a prospective or retrospective research program pertinent to the candidate's specialty
- 5. Documented completion (by advisor letter) of graduate course work in biostatistics, research methods, and/or research ethics.

Grant proposal / acceptance of paper / abstract presentation by all residents.

Note: Letters of documentation by advisors will need to accompany the final submission of the Resident Logs to the Residency Training Committee in order to qualify for a resident certificate.

Please note, any Program Director or Candidate that significantly changes or alters this Residency Training Program before completion must notify ACVIM, in writing, before the changes are made to ensure that the proposed changes are approved.

Significant changes could include, but are not limited to:

- transferring from one program to another
- alterations in program duration
- switching to a 'dual board' program
- enrolling in an institutional graduate program
- change of Program Director or Resident Advisor

As Program Director, I verify that I have read the Certification Manual and that the above information is an accurate reflection of this Residency Training Program.