



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="(607) 253-3081"/>
Mobile Phone:	<input type="text"/>
E-mail:	<input type="text" value="nsm2@cornell.edu"/>
Mailing Address:	<input type="text" value="College of Veterinary Medicine
930 Campus Road
Ithaca, NY 14853"/>

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

Primary Site Location:	Length of Training Program:
<input type="text" value="Cornell University"/>	<input type="text" value="4 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="Nancy Moise
Roberto Santilli"/>

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="Bruce Kornreich - Cardiology
Nancy Moise - Cardiology
Romain Pariaut - Cardiology"/>
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Roberto Santilli - ECVIM-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
Dorothy Ainsworth - LAIM Thomas Divers - LAIM Gillian Perkins - LAIM Curtis Dewey - Neurology Margaret McEntee - Oncology Cheryl Balkman - Oncology Kelly Hume - Oncology Sharon Center - SAIM John Randolph - SAIM Kenneth Simpson - SAIM Meredith Miller - SA	

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*
Christophe Bourguignon 7.17.17 - 7.24.21 (Nancy Moise)			



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
Sean McDonough	Gross/Histopath	ACVP	None

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
Margret Thompson	ACVR	None
Peter Scrivani	ACVR	None
Amy Yeager	ACVR	None

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 Diplomate(s)	Specialty	Comments
Daniel Fletcher	ECC	We also have numerous faculty members in large animal internal medicine and surgery. We have a 4-5% large animal case-load and the direct interaction on clinical cardiology cases with these faculty members is limited.
Gretchen Schoeffler	ECC	
Robert Goggs	ECC	
Julie Menard	ECC	
William Miller, Jr.	Dermatology	

Rory Todhunter	Small Animal Surgery
James Flanders	Small Animal Surgery
Julia Sumner	Small Animal Surgery
Kei Hayashi	Small Animal Surgery
Ursula Krotscheck	Small Animal Surgery
Galina Hayes	Small Animal Surgery
Nita Irby	Ophthalmology
Thomas Kern	Ophthalmology
Eric Ledbetter	Ophthalmology
Filipe Espinheira	Ophthalmology
Robin Gleed	Anesthesiology
Manuel Martin Flores	Anesthesiology
Luis Campoy	Anesthesiology
Jordyn Boesch	Anesthesiology
Soon Hon Cheon	Theriogenology
Mariana Diel de Amorim	Theriogenology
Curtis Dewey	Neurology
Emma Davies	Neurology
Jonathan Wood	Neurology
John Loftus	Nutrition

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"/>	
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"/>	
h) 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 type="checkbox"/>	<input checked="" 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]
- s) Radiation Therapy Facility
- t) Serum osmolality measurement
- u) Total parenteral nutrition capability
- v) Ultra sonographic equipment
- w) Urethral pressure profile & cystometrography
- x) Computerized Medical Records w/Searching Capabilities
- y) Medical Library w/Literature Searching Capabilities
- z) Veterinary Library w/Literature Searching Capabilities

<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	
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<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<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.

We also have an on-site Holter analysis system with recorders, electrophysiology stimulation equipment, BioPac data acquisition systems for pressure and electrophysiology studies, Medtronic and St. Jude pacemaker programmers. We also have the St. Jude electrophysiology and mapping system with all necessary equipment for performing cardiac ablations.

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

Total Cardiology caseload per year:

800

Number of echocardiographic examinations per year:

700

6. Number of cardiac catheterizations per year:

25

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.

Book/journal/topic Club – Friday 1:00 PM – Cardiology faculty and residents review papers, chapters, and specific topics with the residents. We anticipate this will occur 45 out of 52 weeks/year. Therefore, over 3 years that will be 135 hours.

- 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]

International ECG/EP Rounds- Friday 10:00 AM – 12:00 PM – We have a 2 hour session 3 of 4 Fridays/month with our Cornell Team and Dr. Roberto Santilli (we have these rounds when Dr. Santilli is here at Cornell as well as when he is in Italy). During this time we have in-depth discussions concerning electrocardiography, cardiac electrophysiology, Holter analysis, and basic mechanisms of arrhythmias. Residents and faculty present data for discussion.

Graphics/board review– Dr. Moise reviews with residents, electrocardiograms, pressure tracings, angiocardiograms, and other material in preparation for boards. These sessions occur throughout the residency program with increased intensity during the 3rd year. A total of approximately 30 to 50 sessions occur during the residency program.

Team Cardio and Team Anesthesia Rounds – In April 2014 we introduced this new learning venture to discuss cases from procedures, ECGs, pressure tracings, physiology and other topics relevant to both cardiology and anesthesia. These rounds occur sporadically but there are approximately 10 to 20 per year.

Cardiology Case Rounds - 7:30 AM - weekly case rounds with discussions whereby a single case is studied in detail. Dr. Kornreich presents all of these. These discussions are in addition to regular case rounds which will occur during the training of clinical medicine.

Weekly Resident Teaching sessions are provided for all residents on statistics, grant writing, abstract writing, manuscript preparation and teaching. These sessions are provided for all residents to Cornell University.

Resident Internal Medicine Club -Weekly review sessions are held with the internal medicine residents and the cardiology resident.

Bimonthly Specific Electrophysiology Topic presentations prepared by resident and faculty. A list of topics to be addressed will be prepared.

We also have ad hoc training sessions to cover special topics. These are documented as well.

The 80 hour requirement will be exceeded.

- 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 WRITING AND SUBMISSION: The resident is expected to participate in the writing of a grant for ACVIM resident projects and for our internal grants program as a minimum. Our research office has a yearly 3 hour session on the writing of abstracts and grants.

ABSTRACT PRESENTATION: The resident will be expected to present an abstract at the ACVIM or ECVIM meeting during the 3rd and/or 4th year concerning their research. In addition, the resident will present at the Upstate New York Cardiac Electrophysiology meeting that is held each year. If deemed probable based on the outcome of the research other presentations may occur.

RESEARCH PROJECT: The research project must be prospective and hypothesis driven. For this particular program the research project will be revolving around electrophysiology. The resident's primary study must be resident driven but with a great deal of mentor assistance to ensure the most positive forward moving experience. Our program highly values the research interaction with the mentor and the resident to ensure that the resident understands completely the research program and that the resident takes ownership of the project. Although the resident will have opportunities to work independently and demonstrate their ability for original thinking and investigation, the mentor will be sure that the learning is of quality as is the project to maximize the use of the experienced cardiologist. Moreover, because it is expected that this residency will be intense in the area of electrophysiology, as well as arrhythmias, more than one investigation will be likely. Therefore, the resident will have one main investigation, but it is hoped that he will have one additional project as well. The research projects will be under the mentorship of Drs. Romain Pariaut and Sydney Moise.

SPECIALIZED TRAINING IN CLINICAL ELECTROPHYSIOLOGY: During this special four-year program the resident will gain experience in electrophysiology and arrhythmias beyond the regular 3 year training program. This specialized training will include, but will not be limited to, detailed electrophysiology rounds, reading and presenting topics to the Cornell cardiology team in basic and clinical electro physiology (the Cornell faculty including doctors Moise, Pariaut, Kornreich and Santilli) will be making a list of topics, books, and websites that will be included. It is expected that these presentations will happen a minimum of twice per month and be presented at least once per month by the resident in this training program. In addition to this special didactic driven learning the resident in this 4-year program will have the advanced training in cardiac mapping and ablation under the guidance of Dr. Roberto Santilli and the developing expertise of Dr. Romain Pariaut. Dr. Santilli's expertise will be a cornerstone of the uniqueness of this program. We will be developing collaborations

with our colleagues in human electrophysiology at our sister university, Weill Cornell Medical in New York City. Additionally, we will be developing additional links with the electrophysiology lab at Upstate Medical Center in Syracuse, New York. This resident will also be trained in the advanced interpretation of arrhythmia analysis by geometric HRV with Dr. Sydney Moise. Special efforts will be made to provide opportunity at short courses, time at the clinic of Dr. Roberto Santilli and/or meetings for electrophysiology, arrhythmias, and pacing. The latter will depend upon funding.

DOCUMENTATION OF ADVANCED ARRHYTHMIA AND ELECTROPHYSIOLOGY TRAINING: This 4 year program with an emphasis in arrhythmias and electrophysiology will be documented by the resident with a log of the procedures performed, topics specific to this area of cardiology listed and dated, and any specialized training recorded whether it be here or at other locations (e.g. meetings).

SPECIALIZED PRESENTATIONS: We will also be having monthly to bimonthly presentations made to our group in arrhythmias and electrophysiology for this specialized training by experts in the human field. We will be having these presentations via WebEx or Skype. This will be made possible because of a grant given to our program by Dr. Joel Edwards.

The resident will meet all requirements of a standard 3 year training program each of the above will be in addition to ensure the quality of the advanced training.

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.