

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 Neurology 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](http://www.ACVIM.org).

Prior to making significant changes in a Residency Training Program, approval of the ACVIM and Neurology 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 Neurology.

**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 a Diplomate of ACVIM in the Specialty of Neurology or an approved Diplomate of the European College of Veterinary Neurology (ECVN) for at least 5 years with 3 years' experience training residents

Program Director Contact Information:

Work Phone:	<input type="text" value="(215) 746-7624"/>
E-mail:	<input type="text" value="egalban@vet.upenn.edu"/>
Mailing Address:	<input type="text" value="Dept. of Clinical Sciences and Advanced Medicine"/> <input type="text" value="3900 Delancey St."/> <input type="text" value="Philadelphia, PA 19104"/>

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

Primary Site Location:	<input type="text" value="University of Pennsylvania"/>	Length of Training Program:	<input type="text" value="3 year"/>
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2. Resident Advisor(s): Must be a Diplomate of ACVIM in the Specialty of Neurology or a Diplomate of the ECVN and boarded for at least one year. Each RA advises and supervises no more than two residents at one time.

<input type="text" value="Evelyn Galban"/> <input type="text" value="Leontine Benedicenti"/>
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3. Supervising Diplomates: Must be a Diplomate of ACVIM in the Specialty of Neurology or a Diplomate of the ECVN. The supervising diplomate must be active in the practice of the specialty and must maintain clinical competency in the field. **The sponsoring**

**institution must provide resident with onsite presence of any combination of at least two ACVIM or ECVN Neurology Diplomates with full-time clinical responsibilities.**

Sheldon Steinberg - Neurology  
 Charles Vite - Neurology  
 Amy Johnson - Neurology  
 Evelyn Galban - Neurology  
 Leontine Benedicenti - Neurology

4. All Diplomates of ACVIM or ECVIM responsible for supervision of clinical training who specialize in areas other than Neurology.

Name and Specialty	Comments
Marc Kraus - Cardiology Mark Oyama - Cardiology Anna Gelzer - Cardiology Karin Sorenmo - Oncology Pascale Salah - Oncology Jennifer Mahoney - Oncology Mary Beth Callan - SAIM Kenneth Drobatz - SAIM Urs Geiger - SAIM Joan Hendricks - SAIM Rebecka Hess - SAIM Nicola Mason - SAIM Mark Randeau - SAIM Ariel Mosenco - 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.

Resident Name	Start date (mm/dd/yyyy)	End Date (mm/dd/yyyy)	Resident Advisor Name*
Greg Kaiman	7/1/18	7/1/21	Leontine Benedicenti
Amy thibault	7/1/18	7/1/21	



RESIDENCY TRAINING PROGRAM REGISTRATION  
2019-2020  
NEUROLOGY

Part Two

Part Two of the Neurology Residency Training renewal process addresses general features of the program that apply to all current residents. These questions will be used to provide the Residency Training Committee with information needed to judge the structure, quality, scope, and consistency of training provided.

Current Date:

Program Director Name:

Program Director Email Address:

Must be a Diplomate of ACVIM in the Specialty of Neurology or an approved Diplomate of the European College of Veterinary Neurology (ECVN) for at least 5 years with 3 years' experience training residents

Name of Sponsoring Institution (Primary Site):

1. Length of Training Program:

	Yes	
2 years	<input type="checkbox"/>	
3 years	<input checked="" type="checkbox"/>	
Other -provide details		

2. Advanced Degree:

	Yes	No	Optional
Masters:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
PhD:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Briefly explain how the degree is integrated into the residency program:

3. Please list all ACVIM, ECVIM or ECVN Supervising **Diplomates** (Cardiology, Large Animal Internal Medicine, Neurology, Oncology, Small Animal Internal Medicine) providing supervision **off-site** and explain the situation and the agreements provided for contact with the resident. (Note, in Part One, current ACVIM/ECVN Supervising Diplomates are included; and you are requested to provide additional comments for off-site supervision here).

Name of Diplomate(s)	Specialty Certifying Body	Comments

4. Please list all **Diplomates** of the American College of Veterinary Pathology or the European College of Veterinary Pathologists 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 Diplomat(e)s	Specialty Certifying Body (ACVP or ECVP)	Clinical or Gross	Comments
Elizabeth Mauldin Amy Durham Molly Church Charles Bradley Elizabeth Buza Koranda Walsh Nicole Weinstein Natalie Hoeppe	all ACVP	Gross Gross Gross Gross Gross Clinical Clinical Clinical	All on site

5. Please list all **Diplomates** of the American College of Veterinary Radiology or the 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 Diplomat(e)s	Specialty Certifying Body (ACVR or ECVDI)	Comments
Wilfried Mai Yael Porat-Mosenco Jennifer Reetz Ana Caceres Emily Elser	ACVR/ECVDI ECVDI ACVR ACVR ACVR	On site

6. Please list all **Diplomates** available for consultation in the areas of dermatology, surgery, ophthalmology, anesthesiology, emergency/critical care, clinical nutrition, clinical pharmacology, behavior, and/or theriogenology. If off-site, please explain the situation and the arrangements provided for contact with the resident.

Name of Diplomat(e)s	Specialty Certifying Body	Comments
Giacomo Gianotti, Ciara Barr, Monique Pare Carlo Siracusa Daniel Morris, Elizabeth Mauldin, Christine Cain, Katherine Rook Elaine Holt, Gus Aguirre, William Beltran, Brady Beale, Patricia Mundy, Keiko Myadera Cynthia Otto, Kenneth Drobatz, Kim Slensky, Dana Clarke, Lori Waddell, Deborah Silverstein, Deborah Mandell, Erika Reineke, Vince Thawley Lillian Aronson, Dorothy Brown, Susan Volk, David Holt, Kimberly Agnello, Jeffrey Runge, Michael Mison	ACVA ACVB ACVD  ACVO  VECC  ACVS	On site

Alex Reiter, Mary Buelow Katherine Michel Urs Geiger, Magi Casal	ADVC ACVN Clin Nutrition ACVIM Med Genetic and Reproduction	

The following questions will be used to provide the Residency Training Committee with information needed to judge the structure, quality, scope, and consistency of training provided.

**NOTE:** Direct supervision is required during clinical training, with the time required specified by each particular specialty. Direct supervision is defined as follows: The Supervising Diplomate and resident are participating in a clinical practice in which both the Diplomate and the resident are on duty and interactively and concurrently managing cases. The Diplomate need not personally examine each patient seen by the resident, but must remain physically available for consultation. Please use this definition when responding to the following questions regarding clinical rotations.

7. Is this a traditional or non-traditional residency training program? *A traditional neurology residency is a two (2) or three (3) year postgraduate training program, with a minimum of ninety six (96) weeks of supervised clinical training with a majority of the time spent at one location. A non-traditional neurology residency allows for training that may occur in non-contiguous blocks of time over an extended time period.*

Traditional	<input checked="" type="checkbox"/>
Non-traditional	<input type="checkbox"/>

For non-traditional programs, please provide a detailed description of the residency program, including length of program, proposed annual schedule, and the amount of time of direct Diplomate supervision for each location of the residency. The resident must complete the residency in blocks of time no less than four weeks in length and attend a minimum of 20 weeks of training per year. The training period may not exceed a total of five years.

8. The ACVIM Neurology Certification Manual (CM) requires that each resident experience 75 weeks (minimum) of clinical Neurology training under the supervision of either a Diplomate of ACVIM in the Specialty of Neurology or a Diplomate of ECVN. **The 75 weeks should include at least 50 weeks of direct supervision (see definition in CM) and the remainder as indirect supervision (indirect supervision is satisfied by the Supervising Diplomate Neurologist being available for face-to-face contact with the resident at least 4 days per week).**

Please provide an outline of planned yearly schedule, including number of weeks of direct and indirect supervision (i.e. in year 1, the resident will be directly supervised for 25 weeks etc.) A table similar to the example below outlining the proposed weekly schedule of duties for the residents should be provided:

**EXAMPLE TABLE ONLY:**

	Year I	Year II	Year III
Medical Neurology *			
Neurosurgery			
Neurology/Neurosurgery Direct Supervision	36	36	
Neurology/Neurosurgery - Indirect Supervision			34
Internal Medicine	4	2	2

<b>Clinical Pathology</b>	2		
<b>Radiology</b>	2		
<b>Neuropathology</b>		2	2
<b>Other Rotation (please list the name of each rotation)</b>			
		1	
	2	4	4
<b>Research</b>	4	5	8
<b>Independent Study</b>			
<b>Vacation</b>	2	2	2
<b>Total</b>	<b>52</b>	<b>52</b>	<b>52</b>

Numbers indicated are in "weeks".

\* Many residencies are a combined neurology / neurosurgery program with no distinct separation between the services. Some programs, however, have separate training with a surgery service and this example includes that possibility in describing the weekly rotations.

The example table is only a listing of a proposed weekly schedule for each of the three years of a typical 3-year residency program, including all that is required by ACVIM without making any specific recommendations.

Please indicate the outline of planned yearly schedule here:

	Year I	Year II	Year III
Medical Neurology *	19	18	18
Neurosurgery			
Neurology/Neurosurgery - Direct Supervision	19	18	
Neurology/Neurosurgery - Indirect Supervision			18
Internal Medicine	2	2	
Clinical Pathology	1	1	1
Radiology	1	1	1
Neuropathology	1	1	2
Other Rotation (please list the name of each rotation):			
Other: Ophthalmology	1	1	
Other:			
Research	2	2	2
Independent Study	4	6	8
Vacation	2	2	2
<b>Total **</b>	<b>52</b>	<b>52</b>	<b>52</b>

\* Many residencies are a combined neurology / neurosurgery program with no distinct separation between the services. Some programs, however, have separate training with a surgery service.

\*\*The totals should add up to 52 weeks.

9. Describe how daily clinical case rounds are conducted and supervised:

Student rounds are held at the beginning and/or end of each day (Monday through Friday). Cases are discussed with residents sitting down reviewing the record for transfer or outpatient cases or are discussed at cage side. An ACVIM diplomate is generally present during the rounds. Resident and faculty rounds are daily as necessary and as a section group meeting weekly. Weekend cases are discussed as needed on an emergent basis or at Monday morning rounds.

10. The neurology specialty requires that the resident spend at least 50 hours during the residency in the following rotations: Imaging, Clinical Pathology, Neuropathology, Electrodiagnostics and Neurosurgery as well as participate in emergency duties on a rotational basis. A training hour (see CM 7.C.7) will be defined as a minimum of one (1) continuous hour of direct contact time with a supervising specialist in the other field. A Training Agreement Form must be completed and signed by the Diplomate supervising the required training, regardless of whether the training occurs on site or off-site. **Please use the standardized "Training Agreement Form" found on the ACVIM website ([www.ACVIM.org](http://www.ACVIM.org)) to document proof of supervision for all required contact hours (imaging, clinical pathology, neuropathology, electrodiagnostics and neurosurgery) in rotations other than neurology.** One Training Agreement form is required per rotation per resident at the beginning of the residency. Forms do not need to be resubmitted each year as long as a valid Training Agreement Form is on file.

In addition, please provide a brief description of how each phase of this required training is accomplished.

Imaging: 50 hours with a Board-certified radiologist interpreting images, learning and evaluating the results of special imaging techniques and attending imaging rounds or seminars.

Residents rotate through radiology in 1 week rotations. Images are reviewed during the study and at subsequent rounds. Residents review MR/CT at daily MR/CT rounds when cases are available. Residents attend radiology teaching rounds.

Clinical Pathology: 50 hours with a board-certified anatomic pathologist or clinical pathologist evaluating clinical pathologic findings, attending clinicopathologic conferences, or examining surgical sections.

Residents spend one week rotating through clinical pathology service. Clinical pathology instruction is entirely case based. Residents consult with clinical pathologist at least weekly.

Neuropathology: 50 hours with a board-certified anatomic pathologist devoted to review of veterinary neuropathology. This time may be spent in lecture series, seminars, or a formal training program approved by the Residency Training Committee.

Residents attend necropsy review held ~3x's/week whenever a neuro case is presented. Neuro-histology sessions: independent study of 10 cases/ alt. weeks held monthly (2.5 hours of independent study and one hour group discussion). A one hour session is held with the pathologist monthly. Residents consult with clinical pathologist at least weekly.

Electrodiagnostics: 50 hours devoted to reviewing, evaluating, and interpreting different aspects of electrodiagnostics; including but not limited to, electroencephalography, electromyography, motor and sensory nerve conduction study and evoked potentials. Briefly state how the concepts of electrodiagnostics (including EEG) and their clinical application will be taught to residents during the training program. Specifically state whether or not the resident will have hands-on electrodiagnostic experience.

EMG, nerve conduction and EEG are performed at least once per week on patients seen at our hospital and are taught by faculty. Dr. Fiona James from U of Guelph is an expert in EEG and teaches 2 days (16 hours) of lecture and lab on performing and interpreting EEG once every 3 years.

Neurosurgery: 50 hours participating in veterinary neurosurgical procedures. Please provide a specific description of the type of participation [i.e. observation, performance of neurosurgery], and credentials of those providing the training [i.e. ACVS vs. ACVIM Neurology/ECVN]. A Training Agreement Form must be completed if this training is provided by individuals other than the ACVIM (Neurology) or ECVN supervising Diplomate for the residency training program.

Neurology residents perform surgery on a rotating schedule (assist or as a primary surgeon) on a weekly basis under the direct supervision of ACVIM (Neurology) diplomates or ACVS board-certified surgeons. We participate in neurosurgical rounds with the surgery service.

Emergency Duty: Participation in emergency service on a rotational basis; cases seen may be limited to neurology. Please provide a specific description of the type of participation.

The residents are responsible for emergency consultations and casework on a rotating basis. This includes both medically and surgically managed cases.

11. The neurology specialty requires that the resident spend a minimum of 80 hours involved in routine and regular participation in a critical review of the literature (e.g. journal club) during the residency training program with at least one board-certified neurologist in attendance at each journal club meeting. Please explain how this requirement is met:

Current and basic literature is discussed informally but frequently. We also devote 4 hours/month to formal neuro journal club sessions.

12. The neurology specialty requires that the advisor meet with the resident at 6 month intervals to assess, review and critique the resident's progress and weekly schedule of activities. The advisor must provide written documentation of the review that will be signed by both advisor and resident. Please explain how this is accomplished:

Advisor, mentoring team, and resident have regular meetings, but at least twice yearly meet for a more formal written review. This is an opportunity to give guidance, offer compliments (and criticism) and to discuss short-term goals for the next period.

13. The neurology specialty requires that the resident must complete a basic science or clinical research project that follows the scientific method approach and receives approval by the resident advisor (review CM section 7.E.5.c). Please describe how you plan for the resident to undertake, monitor, and complete a project. Include a timeline that the resident and mentor will use as a guide for completion of the project. Note that publication of this research project is not a requirement.

We will discuss ideas, open projects and potential collaborations in the first 6 months of residency and by the first evaluation period a plan will be laid out for data collection/analysis over the next 6 months-1 year. The goal will be to complete the final project by the beginning of the third year.

14. Please indicate the availability of the following facilities or equipment. Indicate if these are available 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. Please also provide the manufacturer and model of the unit for electrodiagnostic and imaging equipment.

	Available?		Location of equipment?
	Yes	No	(On-site or list site name)
a) Standard radiological equipment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	all on site
b) Ultrasonographic equipment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
c) Clinical Pathology capabilities: (includes CBC, serum chemistries, blood gases, urinalysis, cytology, parasitology, microbiology, and endocrinology)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
d) Electrocardiography	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
e) Blood Pressure Measurement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
f) Radiation Therapy Facility	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
g) Veterinary Library w/Literature Searching Capabilities	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
h) Computerized Medical Records w/Searching Capabilities	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
i) Medical Library w/Literature Searching Capabilities	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
j) Electromyography and nerve conduction study testing	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
k) Evoked Response Equipment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
l) Electroencephalography	<input checked="" type="checkbox"/>	<input type="checkbox"/>	



m) Computed Tomography

<input checked="" type="checkbox"/>	<input type="checkbox"/>	
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n) Magnetic Resonance Imaging (include field strength)

<input checked="" type="checkbox"/>	<input type="checkbox"/>	1.5 T
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If any of the above equipment or facilities is available off-site, please explain how the resident can access them for case management, research, or study, *especially with respect to the use of imaging and electrodiagnostic equipment*:

15. Residents must attend formal teaching conferences, resident seminars, grand rounds sessions, medicine journal clubs, neurobiology classes, etc. Residents must participate in these activities an average of four times per month, regardless of their duty status. Please describe the formal conferences, such as clinicopathologic conferences, journal clubs, or seminars that are held on a regular basis.

The residents are expected to attend the following: weekly journal club, large animal rounds every other week, grand rounds twice monthly, and weekly internal medicine board reviews.

16. The resident must give a presentation at a formal conference at least once per year. This may include lectures in departmental courses for veterinary students, grand rounds presentations, presentation of papers or seminars at conferences, or participation in continuing education programs. Documentation of these presentations must be included in the neurology credentials packet of the resident.

Residents will give at least one lecture for veterinary students, may present in grand rounds, or may also present at the Penn Annual Conference.

17. A Neurology Residency Training Program must provide at least 40 hours per year of intensive formal review sessions for residents on topics covered in the General and Specialty Examinations. The requirement could be met in part by attending an ACVIM Advanced Continuing Education (ACE) course, the ACVIM Neuroscience Course (Brain Camp) or an ACVIM Forum. Please describe how these opportunities will be made available to the resident.

Residents attend a weekly internal medicine board review. They are also encouraged to attend Brain Camp and are able to attend ACVIM forum. They are also open to attend ECVN symposium or the Veterinary Neurosurgery conference.

18. How many major veterinary medical or medical meetings are each resident able to or expected to attend during his/her training program?

None	One	Two	> Two
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments:

19. Are one or more publications required as part of the training program?

Yes	No	Number
<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Comments:

It is encouraged.

20. Please describe any additional pertinent information that the Residency Training Program should consider in its evaluation of this Training Program.

**Please note: The Program Director must report substantive changes within a Neurology RTP affecting compliance with Specialty of Neurology requirements to the Neurology RTC Chair within 14 days. This must be done in writing through the ACVIM office before the changes are made to ensure they are acceptable to the Neurology RTC.**

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

I verify that the above information is an accurate reflection of this Residency Training Program.

Per the Certification Manual, each year, the Program Director (PD) must certify to the RTC/ RTCC and ACVIM, in writing, that they have read the ACVIM Certification Manual and understands their role in residency training.

Checking this box is an indication I have read the ACVIM Certification Manual and understand my role in the Residency Training Program.