

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.

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="(530) 304-9450"/>
E-mail:	<input type="text" value="kmvernau@ucdavis.edu"/>
Mailing Address:	<input type="text" value="Surgical & Radiological Sciences, SVM
One Shields Ave., Tupper Hall
Davis, CA 95616"/>

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

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

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="Karen Vernau
Peter Dickinson"/>

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.

Peter Dickinson - Neurology
 Marguerite Knipe - Neurology
 Chai-Fei Li - Neurology
 Karen Vernau - 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
Joshua Stern - Cardiology Lande Visser - Cardiology Monica Aleman - LAIM Michael Kent - Oncology Katherine Skorupski - Oncology Robert Rebhun - Oncology Jenna Burton - Oncology Jennifer Willcox - Oncology Larry Cowgill - SAIM Johnathan Dear - SAIM Lucy Kopecny - SAIM Lynelle Johnson - SAIM Stanley Marks - SAIM Jane Sykes - SAIM Jodi Westropp - SAIM Carrie Palm - SAIM Jonathan Dear - 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*
Izumi Toyoda	8/1/16	7/31/19	Peter Dickinson
Vishal Murthy	8/1/16	7/31/19	Peter Dickinson
Rell Parker	8/1/17	7/31/21	Karen Vernau
Kelly O'Connell	8/1/18	8/1/21	Karen Vernau
Colleen Embersics	8/1/19	8/1/22	
Paulina Dudyk	8/1/19	8/1/22	



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	XX <input type="checkbox"/>	
Other -provide details		

2. Advanced Degree:

	Yes	No	Optional
Masters:	<input type="checkbox"/>	X	<input type="checkbox"/>
PhD:		X	<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
n/a		

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
Dr. Kevin Woolard Dr. Christina Segurson Dr. William Vernau Dr. Dori Borjesson Dr. Sean Owens Dr. Amir Kol	ACVP ACVP ACVP ACVP ACVP ACVP	Anatomic Anatomic Clinical Clinical Clinical Clinical	

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
Dr. Erik Wisner Dr. Rachel Pollard Dr. Mathiu Spriet Dr. Allison Zwingenberger Dr. Eric Johnson Dr. Derek Cissell Dr. Kathryn Phillips	ACVR ACVR ACVR ACVR ACVR ACVR ACVR	

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
Dr. Catherine Outerbridge Dr. Steve White Dr. Cathy Good Dr. Chris Murphy Dr. Sara Thomasy Dr. David Maggs Dr. Steve Hollingsworth Dr. Amy Kapatkin Dr. Ingrid Balsa Dr. Philip Mayhew Dr. Michelle Steffey	Dermatology Dermatology Ophthalmology Ophthalmology Ophthalmology Ophthalmology Ophthalmology Surgery Surgery Surgery Surgery	

Dr. Po-Yen Chou Dr. Marcelin-Little Dr. Bill Culp Dr. Bruno Pypendop Dr. Kate Hopper Dr. Steve Epstein Dr. Ronald Li Dr. Karl Jandry Dr. Jamie Burkett Dr. Angela Borgers Dr. Andrea Fascetti Dr. Jennifer Bones-Larson Dr. Bruce Christensen Dr. Michelle Giuffrida Dr. Autumn Davidson Dr. Melissa Bain Dr. Liz Stelow	Surgery Surgery Surgery Anesthesia ECC ECC ECC ECC ECC ECC Nutrition Nutrition Therio Surgery Therio Behavior Behavior	

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.

n/a

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

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 *			
Neurosurgery			
Neurology/Neurosurgery - Direct Supervision	37	33	
Neurology/Neurosurgery - Indirect Supervision			32
Internal Medicine		2	
Clinical Pathology		1	1
Radiology	1	1	1
Neuropathology	1	1	1
Other Rotation (please list the name of each rotation):			
Other: Ophthalmology	1		
Other: Critical Care or Electrophysiology	3	1	1

Research	2	2	5
Independent Study	2	6	6
Vacation	5	5	5
Total **	52	52	52

* 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:

The Neurology/Neurosurgery service has twice weekly clinical case rounds for 1 hour each session, where the residents present cases, and the cases are discussed as a group--with all of the attending faculty and residents.

The residents also attend daily student rounds, when the students present cases, and the faculty with the residents assistance lead a discussion of clinical neurology using the clinical case material as a base.

When on clinics, the attending faculty are on the floor, and review all of the patients in a 1:1 basis with the residents. The faculty examine all inpatients, patients presenting for appointments and consultations with the resident. In addition, the faculty assist with all diagnostic procedures (the degree of involvement varies with the level of experience of the resident) including CSF taps, MRIs, CTs, and electrodiagnostics, as well as all surgical procedures, 24/7/36.

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) 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.

The residents review radiographs, MRIs, CTs and myelograms (when we do them!) on a daily basis when on clinics with the board certified radiology faculty.

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

The residents rotate onto the clinical pathology service for 2 full weeks during their residency. The residents spend at least 50 hours as part of the Clinical Pathology resident rotation with a board certified clinical pathologist where clinical pathology samples are examined and discussed in detail. In addition, the residents spend several hours attending didactic lectures on CSF throughout their residency, and discuss /review their cases often with one of clinical pathologists who has an interest in CSF and CNS cytology on a regular basis.

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.

The residents attend at least 50 hours of seminars and rounds dedicated to neuropathology with a board-certified pathologist with an expertise in neuropathology. Neuropathology rounds run biweekly for 1.5 hours throughout the year, and therefore they are exposed to neuropathology throughout the ENTIRE period of their residency. Our residents also work closely with the neuropathologists and pathology residents reviewing the neuroimaging and gross pathology. The residents also attend didactic lectures and laboratories with a board certified pathologist with an expertise in neuropathology.

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.

Electrodiagnostics are incorporated into our didactic resident teaching program. The residents also participate in a week long electrodiagnostic course with didactic lectures and 2 hands on laboratories every year for 3 years during their residency. During the residency, residents perform the electrodiagnostic testing with the supervising faculty member and technical staff in our dedicated electrophysiology laboratory.

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.

The residency at UC Davis is a Neurology/Neurosurgery residency. Our residents perform all of the neurosurgery procedures with the Neurology/Neurosurgery faculty's supervision and instruction. Our service also trains the surgery residents in neurosurgery. We have focused didactic classes, journal club targeted to neurosurgery, and twice a year run a cadaver surgery course for the surgery residents AND our neurology/neurosurgery residents. The residents more than fulfill the 50 hours participation in this area.

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.

Our residents participate in emergency duty. When on clinic duty during the day, they cover neurology emergency duty for 2 days during the week, or alternatively, cover weekend emergency duty from Friday to Monday.

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:

We have a once weekly 1 hour journal club class throughout the 3 years of the residency program, and thus the residents more than meet this requirement of 80 hours.

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:

The resident advisors meets with all residents every 6 months. As part of the UC Davis residency program we formally evaluate our residents at 6 monthly intervals. All 4 members of the UC Davis Neurology/Neurosurgery faculty review the residents progress, and we write a collective assessment. We review this assessment with our residents every 6 months.

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.

As part of our residency program, the residents must complete a research project. This research is initiated early in the first year of the residency program, where the resident works closely with one faculty mentor. The residents provide quarterly updates on the research they are doing to the entire Neurology/Neurosurgery service. Our residents also are strongly encouraged and prepared to present their research at the annual UC Davis "House Officers Seminar Day" in preparation for presentation at ACVIM.

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"/>	On site
b) Ultrasonographic equipment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	On site
c) Clinical Pathology capabilities: (includes CBC, serum chemistries, blood gases, urinalysis, cytology, parasitology, microbiology, and endocrinology)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	On site
d) Electrocardiography	<input checked="" type="checkbox"/>	<input type="checkbox"/>	On site
e) Blood Pressure Measurement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	On site
f) Radiation Therapy Facility	<input checked="" type="checkbox"/>	<input type="checkbox"/>	On site
g) Veterinary Library w/Literature Searching Capabilities	<input checked="" type="checkbox"/>	<input type="checkbox"/>	On site
h) Computerized Medical Records w/Searching Capabilities	<input checked="" type="checkbox"/>	<input type="checkbox"/>	On site
i) Medical Library w/Literature Searching Capabilities	<input checked="" type="checkbox"/>	<input type="checkbox"/>	On site
j) Electromyography and nerve conduction study testing	<input checked="" type="checkbox"/>	<input type="checkbox"/>	On site
k) Evoked Response Equipment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	On site
l) Electroencephalography	<input checked="" type="checkbox"/>	<input type="checkbox"/>	On site
m) Computed Tomography	<input checked="" type="checkbox"/>	<input type="checkbox"/>	On site
n) Magnetic Resonance Imaging (include field strength)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	On site

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.

We have a resident class every day from 8-9 am for 1 hour. We run a one week electrophysiology course twice yearly for our residents; each resident attends once yearly for 3 years. We also run cadaver labs for neurosurgical training twice yearly.

Monday: Didactic Class: electrophysiology, neuroanatomy, neurophysiology, neuroradiology, topical literature review
 Tuesday: Clinical Case Discussion

biweekly Wednesday morning: Neuropathology

Biweekly Wednesday: Internal medicine grand rounds (each resident presents a case 3-4 times per year for 3 years)

Thursday: Clinical Case discussion

Friday: Journal Club

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.

Our residents participate in grand rounds every year and in their second +/- third year of residency participate in "House Officer Seminar Day" at UC Davis and the ACVIM Forum.

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.

Our residents participate in one weekly formal review sessions in preparation for the General Specialty examinations. They also attend ACVIM in their second and third year, and potentially their first year. Residents are given the opportunity to attend the ACVIM Neuroscience Course.

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

Comments:

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.