RESIDENCY TRAINING PROGRAM REGISTRATION
2019-2020
ONCOLOGY

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 Oncology 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 Oncology 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 any 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 Oncology.

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: Dr. Nicole F. Leibman

Must be an active Diplomate of ACVIM in the Specialty of Oncology

Program Director's Contact Information:

Work Phone:	(212) 329-8740
E-mail:	nicole.leibman@amcny.org
Mailing Address:	The Cancer Institute 510 E. 62nd St. New York, NY 10065

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

Primary Site:	Length of Training Program:
Animal Medical Center	3 year

2. Resident Advisor(s): Must be ACVIM Diplomate(s) in Oncology. There is no restriction on the number of Resident Advisors; however, **each Resident Advisor may supervise only two residents concurrently.**

Nicole Leibman
Ann Hohenhaus
Maria Camps-Palau

3. Supervising Diplomates: **There must be a minimum of two (2) ACVIM Oncology Diplomates per institution.**

Maria Camps-Palau - Oncology & SAIM
Ann Hohenhaus - Oncology & SAIM
Nicole Leibman - Oncology

4. All onsite Diplomates of ACVIM responsible for supervision of clinical training who are specialists in areas other than Oncology.

Name and Specialty	Comments
Betsy Bond - Cardiology Philip Fox - Cardiology Dennis Trafney - Cardiology Abbie Lebowitz - Neurology	

John McCue - Neurology Chadwick West - Neurology Elizabeth Appleman - SAIM Nahvid Etedali - SAIM Douglas Palma - SAIM Jennifer Prittie - SAIM Dennis Slade - SAIM	

5. Residents currently enrolled in the 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*
Edwina Love	7/18/16	7/19/19	Nicole Leibman
Ashlyn Williams	7/17/17	7/24/20	Nicole Leibman
Andrea Smith	7/16/18	7/23/21	Anne Hohenaus

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Part Two

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

Current Date: 2/18/2019

Program Director Name: Nicole Leibman

(Must be a Diplomate of ACVIM in the Specialty of Oncology)

Name of Sponsoring Institution (Residency Training Program): The Animal Medical Center

1. For residency programs with off-site rotations (required rotations not available at the primary institution/site): To ensure uniformity of training and compliance with current Certification Manual (CM) requirements, training programs that include off-site rotations must provide detailed information regarding supervision and facilities available at each specific site(s).

Outside Rotation(s) (if applicable): Please attach signed Training Agreement Form from all institutions providing off-site training of oncology residents to this registration form. Each Training Agreement Form should specify the number of weeks scheduled at each site and the rotation requirement met. Training Agreement Forms must be submitted annually WITH program renewal forms and WITH each new program request.

In the box provided below, list the outside rotations for which you are attaching Training Agreement Forms. Please include in the space below the specific information regarding the number of weeks scheduled at each site and which rotation requirements shall be met at each site:

2. Type of Training Program:

Traditional 3 years	☒
Non-traditional (Length in years)	
For non-traditional programs, please provide details. Note that programs must be at least 3 years (156 weeks) in length.	

3. Advanced Degree:

	Yes	No	Optional
Masters:	☐	☒	☐
PhD:	☐	☒	☐

Required for residency certificate: Yes ☐ No ☒

Comments:

4. ONCOLOGY DIPLOMATES (CM 8.G.4)
There must be a **minimum of two (2) ACVIM Oncology Diplomates** at the primary training site of the residency for an Oncology RTP to be approved or to maintain approval. Please list the ACVIM Oncology Diplomates and their site of activity.

Name of Oncology Diplomates	Location
Nicole Leibman, DVM, MS, DACVIM-Oncology	The Animal Medical Center
Maria Camps DVM, ACVIM-Oncology, Internal Medicine	The Animal Medical Center
Ann Hohenhaus DVM, ACVIM-Oncology, Internal Medicine	The Animal Medical Center

5. SUPPORTING DISCIPLINES REQUIRED
There must be an **ACVIM SAIM Diplomate** with ≥50% FTE at the primary training site of the residency for an Oncology RTP to be approved or to maintain approval (CM 8.U.3). At least **four weeks** (completed in at least two consecutive week blocks) of training under the direct supervision by an ACVIM Small Animal Internal Medicine (SAIM) Diplomate are required.
Please list the ACVIM SAIM Diplomate(s) who will fulfill this requirement for the RTP.

Name of SAIM Diplomate(s)	Location
Ann Hohenhaus DVM, ACVIM-Oncology, Internal Medicine	The Animal Medical Center for all
Maria Camps DVM, ACVIM-Oncology, Internal Medicine	
Dennis Slade DVM, ACVIM-Internal Medicine	
Douglas Palma DVM, ACVIM-Internal Medicine	
Jennifer Prittie DVM, ACVIM-Internal Medicine	
Elizabeth Appleman VMD, ACVIM-Internal Medicine	
John McCue DVM, ACVIM-Internal Medicine	
Nahvid Etedali DVM, ACVIM-Internal Medicine	

There must be an **ACVS Surgery Diplomate** with ≥50% FTE at the primary training site of the residency for an Oncology RTP to be approved or to maintain approval (CM 8.U.3).
Please list the ACVS Surgery Diplomate(s) who will fulfill this requirement for the RTP.

Name of ACVS Diplomate(s)	Location
Katie Kennedy DVM, ACVS	The Animal Medical Center for all
Robert Hart DVM, ACVS	
Pamela Schwartz DVM, ACVS	
Daniel Spector DVM, ACVS	

6. CLINICAL TRAINING IN OTHER SPECIALTIES: REQUIRED AFFILIATED ROTATIONS (CM 8.M)
Because oncology is a multimodal discipline, the resident must also have clinical training under the direct supervision of Supervising Diplomates in other disciplines. This contact may occur at a secondary training site.
A minimum of 32 weeks must be spent actively receiving patients in affiliated rotations or meeting requirements through rounds. For each off-site rotation included in the 32 weeks of clinical training in other specialties, the resident should obtain written approval from their Resident Advisor, who will forward documentation of this approval to the RTCC.

6a. RADIATION ONCOLOGY REQUIREMENTS (CM 8.M.1):
At least **eight weeks** of direct supervision is required with a veterinary radiation oncologist to develop an understanding of clinical management of patients receiving radiation therapy, radiation planning, dosimetry, and physics related to clinical radiation therapy.
Please list all DACVR-RO diplomates responsible for training in radiation oncology. Describe how Diplomates are involved in the supervision of residents and how direct contact in radiation oncology training will be fulfilled. Radiation oncology rotations must be completed in blocks of at least two consecutive weeks in length.

Name of Diplomate(s)	Site	Role in training residents
Rachel St Vincent DVM, MVSc, DACVR (RO)	The Animal Medical Center	This is direct training in the hospital. Residents see radiation oncology cases with Dr. St. Vincent as well as manage cases. The resident has rounds for one hour weekly with Dr. St. Vincent, to include both basic radiation oncology and well as case rounds. In addition, the residents complete eight weeks of radiation therapy in (2) 2 week blocks and (1) 4 week block.

6b. PATHOLOGY REQUIREMENTS (8.M.1):
At least **two weeks** (may be met through weekly/biweekly rounds) of direct supervision with a **clinical pathologist** are required.
Please list all **Diplomates of the American College of Veterinary Pathology** in clinical pathology associated with residency training. Describe how Diplomates are involved in the supervision of residents and how direct contact requirements (must be in person, not videoconference) in clinical pathology will be met.

Name of Diplomate(s)	Site	Role in training residents
Andrea Siegel DVM, ACVP	On site Idexx at The Animal Medical Center	Residents attend one hour weekly rounds where they look at slides under the microscope with Dr. Siegel. Dr. Siegel is also available for walk in consults with cytology slides while the residents are in clinics. Residents also have the option to rotate through the service during an elective rotation.

At least **two weeks** (may be met through weekly/biweekly rounds) of direct supervision with an **anatomic (surgical) pathologist** are required.
Please list all **Diplomates of the American College of Veterinary Pathology** in anatomic (surgical) pathology associated with residency training. Describe how Diplomates are involved in the supervision of residents and how direct contact requirements (must be in person, not videoconference) in anatomic pathology will be met.

Name of Diplomate(s)	Site	Role in training residents
Taryn Donovan DVM, ACVP	The Animal Medical Center	Two week rotation(may be completed in 2-one week rotations) within the Anatomic Pathology Department (80 hrs) plus monthly specific oncology rounds (1hr/mo).
Heather Daverio DVM, ACVP	On site Idexx at The Animal Medical Center	Assists Dr. Donovan in teaching the residents

6c. DIAGNOSTIC IMAGING REQUIREMENTS (8.M.1):

At least two consecutive weeks of diagnostic imaging under direct supervision by a board-certified radiologist are required in addition to any interactions during case rounds.
Please list all Diplomates of the American College of Veterinary Radiology (*not* including radiation oncology) associated with residency training. Describe how Diplomates are involved in the supervision of residents and how direct contact requirements (must be in person, not videoconference) in radiology will be met.

Name of Diplomate(s)	Site	Role in training residents
Dr. Anthony Fischetti DVM, DACVR Alexandre B. LeRoux DVM, DECVDI, DACVR	The Animal Medical Center	The radiologists are available to discuss all ultrasounds, radiographs, MRIs, and CTs directly with the candidate daily. Residents also complete a two week(consecutive) rotation in radiology

6d. OTHER REQUIRED ROTATIONS (8.M.2):
Fourteen weeks of other rotations with an ACVIM Diplomate in the Specialty of Oncology, or training under the supervision of a member of an American Board of Veterinary Specialties (ABVS) or European Board of Veterinary Specialization (EBVS) approved specialty (such as, but not limited to, the American College of Veterinary Radiology, the American College of Veterinary Radiology (Radiation Oncology), American or European College of Veterinary Neurology, the American College of Veterinary Pathology, ACVS, or ACVECC). Rotations must be completed in at least two consecutive week blocks (unless otherwise specified in the CM.)
Please list the other ACVIM diplomates not previously listed or other non-ACVIM diplomates that will be involved with resident training available for consultation in these areas. Describe how Diplomates are involved in the supervision of residents and their contribution to direct contact requirements in affiliated specialties.

Name of Diplomates	Specialty/College	Site	Role in training residents
Robert Hart Pam Schwartz Chick Weisse Daniel Spector Katie Kennedy	ACVS	On-site	There is a boarded surgeon in the hospital 6 days a week and available for consultation, in which the resident can directly participate. Residents are also welcome to rotate throught the surgical services.
Daniel Carmichael Martel Django	AVDC	On-site	There is a boarded dentist in the hospital 4 days a week and available for consultation, in which the resident can directly participate.
Sandra Van der Woerdt	ACVO	On-site	There is a boarded ophthalmologist in the hospital 4 days a week and available for consultation, in which the resident can directly participate.
Katherine Quesenberry	ABVP	On-site	There is a boarded exotics specialist in the hospital 5 days a week and available for consultation, in which the resident can directly participate.
Phil Fox AnnMarie Zollo Lisa Bazzle Joel Weltman Dava Cazzolli Jennifer Prittie Christine Keyserling	ACVECC	On-site	There is a boarded criticalist in the hospital 7 days a week and available for consultation, in which the resident can directly participate. Residents are encouraged to rotate though critical care.

Leilani Alvarez	ACVSMR	On-site	There is a boarded sports medicine and rehabilitation specialist in the hospital 4 days a week and available for consultation, in which the resident can directly participate.
Andrea Siegel DVM, ACVP	ACVP	On site Idexx at The Animal Medical Center	Residents attend one hour weekly rounds where they look at slides under the microscope with Dr. Siegel. Dr. Siegel is also available for walk in consults with cytology slides while the residents are in clinics. Residents also have the option to rotate through the service during an elective rotation.
Taryn Donovan DVM, ACVP	ACVP	The Animal Medical Center	Two week rotation(may be completed in 2-one week rotations) within the Anatomic Pathology Department (80 hrs) plus monthly specific oncology rounds (1hr/mo).
Heather Daverio DVM, ACVP	ACVP	On site Idexx at The Animal Medical Center	Assists Dr. Donovan in teaching the residents
Dr. Anthony Fischetti	DVM, DACVR	The Animal Medical Center	The radiologists are available to discuss all ultrasounds, radiographs, MRIs, and CTs directly with the candidate daily. Residents also complete a two week(consecutive) rotation in radiology
Alexandre B. LeRoux	DVM, DECVDI, DACVR	The Animal Medical Center	

7. FORMAL STRUCTURED RESEARCH (CM 8.O):
The resident is expected to actively participate in a laboratory or clinical investigative research project during the residency. A minimum of eight weeks (320 hours) of an oncology residency should be dedicated to this aspect of training. Research time should be scheduled as either weekly time (hours per week) or in blocks of time sufficient to complete the research, perform data analysis, and prepare a manuscript for publication by the third year of their residency (see Recommended Milestones in CM 8.G 6-8). This experience must be documented, with dates, and signed by the Supervising Diplomate.
Please explain how your residency program complies with the research guidelines outlined above.

The resident will have 1 week allocated the first year, 2 weeks the second year and 4 weeks the third year. Additionally, each resident will have 3 hours per week set aside for only research purposes. The resident will be expected to produce a literature search, proposal and ultimately the project and pubication. If the project is in conjunction with another institution (Sloan Kettering, Cornell, NYU), the resident will utilize allotted time to go to the specific lab to process tumors and other laboratory samples. For example, our current first year resident, is excused early on Wednesdays to work in a lab on tumor tissue(collected at AMC) at Sloan Kettering. The resident will have four weeks allocated the third year to complete the project and write the manuscript. A boarded oncologist will closely monitor the resident and their project. There will be monthly research meetings with documentation to access the project and its progress. We also have a research technician that is involved in every project and assists the resident in sample collection etc.

For Board-certification in oncology, the resident must have a minimum of one major first author publication in the field of oncology published or accepted for publication in a refereed scientific or peer-reviewed journal. A literature review or case report is not acceptable. Please describe how this program supports this requirement for publication. (See CM 8.F.5)

The resident will be contacted before the residency begins to have a discussion regarding a research project. The resident will have a research meeting within the first two weeks of starting the residency with their advisor to discuss the implementation of a project. The resident will be supported while doing a literature search and review, the design and implementation of the project. There are also funds set aside to support resident research. Additionally, grant writing will be discussed in our weekly journal club. If it is appropriate, the resident will be supported in writing and submitting a grant to support their research. The AMC has strong relationships with Sloan Kettering, NYU, and Cornell. There are opportunities for the residents to do collaborative projects within these institutions.

8. JOURNAL CLUB (CM 8.P):

An organized and routinely scheduled journal club of at least 80 hours over the course of the RTP must be an integral part of all oncology resident training. Journal Club must be attended and supervised by a Supervising Diplomate. The RTP application requires a schedule of proposed Journal Club for Oncology RTCC approval.

Please explain how your residency program complies with the journal club guidelines outlined above, and include a schedule for this requirement, including number of proposed meetings and duration of each meeting.

The residents, and a board certified oncologists meet every Friday throughout the residency from 3pm-4pm. The residents are taught to understand study design and to critique peer reviewed articles. At the beginning of every month the residents gather the oncology articles that have been published in the journals that are listed as requirements for the oncology specialty exam. The expectation is that the residents and the staff doctors read all of the articles and critically evaluate the literature. We then spend the following month reviewing a selection of those articles. The expectation is that the resident do a literature search and provide the relevant associated articles for that particular article that they are reviewing. They are expected to have notes reviewing their assigned articles. They provide a description of the study, literature review, identify the research question or issue, evaluate the study design, the sample size, and statistical methods utilized. The results and discussion are reviewed. Lastly, we discuss the validity of the article, and how we can learn and apply what we have learned to our own research and clinical practice.

9. SEMINAR OR LECTURE SERIES AND FORMAL CONFERENCES (CM 8.Q, 8.R):

Residents must attend formal teaching conferences in oncology and related disciplines throughout the residency. Unless these are formal lectures or classes, an Oncology Supervising Diplomate supervises the conferences, which should occur an average of four times per month. Examples of these are clinical pathology conferences, resident seminars, grand rounds sessions, and tumor biology classes. Conferences given within a veterinary practice or hospital or at a medical school or medical teaching hospital are acceptable.

Please include includes the format and schedule of these conferences and presentations, which directly pertain to training in Oncology and give specific details given on a daily, weekly, or monthly basis.

Day/freq	Type of Rounds	Moderator	Duration
Tues/weekly	Molecular Oncology Grand Rounds	Cornell/Sloan Ketterin(MSKCC)	2 hrs (am)
Wed/monthly	Oncology Pathology Rounds	Donovan ACVP	1 hr (pm)
Wed/weekly(Feb/March)	Resident Grand Rounds	AMC resident/all attend	1 hr (am)
Thurs/weekly	Radiation Oncology Rounds	St. Vincent ACVR	1 hr (am)
Thurs/weekly	Clinical Pathology Rounds	Andrea Siegel ACVP	1 hr (pm)
Thurs/quarterly	Tumor Board	Oncology/Surgery/Radiation	1hr(am)

Notes.

Cornell/MSKCC:Memorial Sloan Kettering Cancer Center. Rounds are presented by various departments/ individuals from either in-house or visiting from other academic (human) teaching hospitals. Rounds are oncology-related and deal with a wide variety of subject matter, such as, patient management, molecular diagnostics, therapeutics, quality of life, and ethics of medicine.

Radiation Oncology Rounds: Rounds include clinical patient reviews of imaging, radiation plans, and set-ups, as well as basic science of radiation oncology, journal article reviews, and radiation topic reviews. There are also specific days that are designated for review of Tannock and Hill.

Tumor Board is attended by the entire oncology service to include Dr. Kennedy who is a board certified, oncology fellowship trained surgeon. Additional surgery services, radiology, and interventional radiology attend this meeting-quarterly. A multidisciplinary approach is discussed regarding patient care. Tumor biology as well as diagnostics and therapeutics are

discussed. Generally, two cases are presented and discussed.

It is a requirement of the residency that all rounds are attended by the residents.

The resident must give a formal presentation at such a conference at least once per year. Documentation of these presentations must be included in the oncology credentials packet of the resident.
Please list all opportunities offered to and/or required of the resident for attendance and/or giving formal presentations at local, regional, state, or national meetings. Indicate whether the resident will attend or present at these meetings (CM 8.Q).

Tumor Board-The resident formally presents once yearly with a powerpoint presentation on a particular patient, disease process, diagnostics, therapeutics, and a literature search regarding the disease process. They are expected to run a discussion amongst multiple specialties regarding the particular case and disease process.

Grand Rounds-The resident formally presents once during the residency with a powerpoint presentation on a particular case. The resident is supported in the process by an oncologist. The resident presents this case as well as the disease process, diagnostics and therapeutics to the entire hospital. They are expected to run a discussion amongst the medical staff present.

Residents must attend at least one state, regional, national, or international veterinary or human medical continuing education conference during their residency. Please list opportunities offered to and/or required of the resident for attendance

The resident attends Veterinary Cancer Society Meeting all three years of the residency where they are encouraged to present their research.

10. FORMAL EXAMINATION REVIEW SESSIONS (CM 8.S):
An oncology RTP must provide at least 40 hours per year of intensive formal review sessions for residents/candidates on topics covered in the general and specialty examinations. Attending daily clinical rounds does not meet this requirement. The requirement could be met in part by attending an ACVIM advanced continuing education (ACE) course, by attending an ACVIM Forum, or formal resident review sessions at a Veterinary Cancer Society Annual Meeting.
Please provide an anticipated schedule of these formal reviews below. Annual documentation will be required.

The residents meet with an oncologist every Wednesday for one hour. A formal schedule is closely adhered to. A calendar is set up each July, so everyone is well aware of their responsibilities. Textbooks are reviewed. These include: Withrow, Chabner, and Weinberg. Typically, the resident reviews a chapter and a discussion follows. There is hospital wide formal board review in preparation for the general exam. The lectures are given by the boarded specialists beginning three months before the exam. Residents also attend all resident review sessions offered by Veterinary Cancer Society.

While it may have no bearing on your program, the supervising Diplomate(s) and the resident are required to review the Certification Manual yearly. You may obtain a copy of the Certification Manual from the ACVIM website at www.ACVIM.org.

11. Have all supervising Diplomate(s) read the objectives for an oncology residency as outlined in the Certification Manual, Specialty of Oncology?

Yes	No
☒	☐

If no, please explain:

12. The RA and PD should periodically evaluate the resident (required minimum of once every 6 months) and discuss the results of those evaluations with the resident. Either the RA or PD (or both) must be able to provide the Residency Training Committee with written summaries of those evaluations, if requested. The RTP may use the standardized evaluation form (provided by ACVIM) or a similar internal evaluation document. If an internal evaluation document is used, it must include discussion of the 8 core competencies outlined in the standardized form including patient care, medical knowledge, practice-based learning, interpersonal and communication skills, professionalism, didactic learning, clinical research and publication productivity, and teaching ability.

Does your program comply with these standards of resident evaluation?

Yes	No
☒	☐

If no, please explain:

13. 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 or not available, please describe the situation, availability, or how the resident will gain experience with equipment not available in the space at the end of this section.

	Available? (Y or N)	Location of equipment? (On-site or list site name)
a) Radiography	x	On-site
b) 24 hour emergency and critical care facility	x	On-site
b) Ultrasonographic equipment	x	On-site
c) Color flow/Doppler equipment	x	On-site
d) Endoscopy equipment	x	On-site
GI equipment	x	On-site
Bronchoscopy	x	On-site
Cystoscopy	x	On-site
Rhinoscopy	x	On-site
Laparoscopy	x	On-site
e) Clinical Pathology capabilities: (includes CBC, serum chemistries, blood gases, urinalysis, Cytology, parasitology, microbiology, and endocrinology)	x	On site Idexx and off site Idexx(parasitology, microbiology, and some endocrinology
f) Appropriate safety equipment for handling chemotherapy (briefly summarize what is available in the column Location of Equipment).	x	On site Germfree laminar flow hood w/outside ventillation system; Equashield closed drug transfer system. Personal protection equipment includes eye protection, disposable gowns and nitrile gloves.
g) Nuclear Medicine	x	Off site –see below
h) Computed Tomography	x	On-site
i) Magnetic Resonance Imaging	x	On-site
j) Radiation Therapy Facility	x	On-site
k) Intensive Care Facility – 24 hours	x	On-site
l) Total parenteral nutrition capability	x	On-site
m) Computerized Medical Records w/Searching Capabilities	x	On-site

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.

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E. Clinical Pathology Capabilities

There is an on site Idexx laboratory at the Animal Medical Center. There is the capability to perform a CBC, serum chemistry, urnialysis and some endocrinology tests. Parasitology, microbiology and all other laboratory diagnostics are performed off site at Idexx.

G. Nuclear Medicine:

A course in radiation biology and radiation physics provides didactic learning for residents in radiology, radiation oncology, and

medical oncology. The courses will be two hours long, twice weekly for 8 weeks. Four hours of lecture will be dedicated to nuclear medicine, applications and physical considerations. The course is taught at the AMC by a professor of radiology at Cornell Weill College of Medicine. His name is Dr. Pat Zanzonico

http://www.mskcc.org/research/lab/pat-zanzonico

Pat Zanzonico, PhD

Room Z 2002 (Zuckerman Research Center)

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E mail: ZanzoniP@MSKCC.ORG

Below is the learning objectives, specific to nuclear medicine that Dr. Zanzonico will be following:

Nuclear Medicine (20.*.*.*)

1. Nuclear medicine generator systems (20.1.*)
    1. Parent-Daughter Decay (generator systems) (20.1.1)
2. Radiation Detectors (20.2.*.*)
    1. Gamma camera structure and function (20.2.1.*)
        1. Gamma camera head including the NaI crystal, photocathode, photomultiplier tubes (20.2.1.1)
        2. Pre-amplifier, amplifier, and pulse height analyzer (20.2.1.2)
        3. Rate scalers, cathode ray tube, analog digital converter (ADC) (20.2.1.3)
        4. Collimators - low energy-all purpose, diverging, converging, medium energy, pin-hole, high resolution, high sensitivity (20.2.1.4)
    2. Gamma camera image quality (20.2.2.*)
        1. Quality control (20.2.2.1)
        2. Factors that limit spatial and temporal resolution (20.2.2.2)
3. Digital image processing (20.3.*)
        1. Types of acquisitions - frame mode, list mode, static, dynamic, gated (ECG synchronized) (20.3.1)
        2. Image depth - bit, byte and word (20.3.2)
        3. The effect of matrix size on image quality, frame rate and storage capacity (20.3.3)

4. Types of background correction (20.3.4)

5. Cross talk and its quantitative effect on ROI (20.3.5)

6. Regions of interest (ROI), time activity curves and basic filtering operations including smoothing, edge detection, temporal and spatial operations (20.3.6)

4. Radiopharmaceuticals - know the indication, routes of administration, mechanisms of location and route of excretion for the following radiopharmaceuticals. Also, know the clinical scintigraphic procedures related to indications, proper radiopharmaceuticals to be used, scanning protocol, normal anatomy, common artifacts, and principles of interpretation and the appearance of disease. (20.4.*.*)

1. Pertechnetate - thyroid imaging, per-rectal portal and trans-splenic scintigraphy (20.4.1)

2. Macroaggregated albumin (MAA) - pulmonary perfusion and right to left shunt quantification (20.4.2)

3. Methylene diphosphonate - three phase bone scans (20.4.3)

4. 99mTc-DTPA (20.4.4.*)

1. GFR calculation (20.4.4.1)

5. IDA - hepatobiliary scanning, transsplenic portal scintigraphy (20.4.5)

6. 123I, 131I - thyroid scintigraphy (20.4.6)

7. 18F/FDG-PET (20.4.7)

5. Analysis of Scintigraphic Procedures - know the indications and methods of calculation of the following procedures: (20.5.*)

1. Portosystemic shunt quantification (20.5.1)

2. Glomerular filtration rate - imaging studies (20.5.2)

6. Therapeutic use of 131I (20.6)

The option also exists to refer cases to Cornell-College of Veterinary of Medicine for specific imaging, if indicated. In these circumstances, the results will be discussed as a team to include the residents.

14. The resident should have access to a human or veterinary medical library with on-line searching capacity and at a minimum have access to all textbooks (current editions) and full text access to all journals on the current examination committee reading list Note that on-line access to texts must be full-text not abstracts only). This library should be available on-site or within a reasonable commuting distance (defined as within a 15 mile radius of the primary training site).

Please indicate how your resident can obtain access to the following textbooks/journals.

Text or Journal	Hard Copy or Subscription Available on site, or Medical/Veterinary Library *(insert name)*	Available Electronically (CD-ROM or Online Subscription)	Available Through pub-med only (free or will purchase articles)	Not Available
DeVita: Cancer: Principles and Practice of				

Oncology, 10th ed. (2015)	☒ or Library: I	☐	☐	☐
Withrow: Veterinary Clinical Oncology, 5th Ed. (2013)	☒ or Library: I	☐	☐	☐
Chabner: Cancer Chemotherapy, 5th or 6th Ed. (2011, 2019)	☒ or Library:	☐	☐	☐
Tannock&Hill: Basic Science of Oncology, 5th Ed. (2013)	☒ or Library:	☐	☐	☐
Abbas: Cellular and Molecular Immunology, 9th Ed. (2017)	☒ or Library:	☐	☐	☐
Meuten: Tumors in Domestic Animals, 5th Ed. (2016)	☒ or Library:	☐	☐	☐
Weinberg: The Biology of Cancer, 2nd Ed. (2013)	☒ or Library:	☐	☐	☐
Feldman & Nelson: Canine and Feline Endocrinology and Reproduction, 4th Ed. (2015)	☒ or Library:	☐	☐	☐
Cowell, Taylor & Meinkoth: Diagnostic Cytology and Hematology of the Dog and Cat, 4th Ed. (2014)	☒ or Library:	☐	☐	☐
Hall: Radiobiology for the Radiologist, 7th Ed. (2012)	☒ or Library:	☐	☐	☐
Ogilvie & Moore: Feline Oncology (2001)	☒ or Library:	☐	☐	☐
Henry & Higginbotham: Cancer Management in Small Animal Practice (2009)	☒ or Library:	☐	☐	☐
Raskin and Meyer: Canine and Feline Cytology – a color atlas and interpretation guide, 3rd edition (2015)	☒ or Library: Cornell	☐	☐	☐
Latimer: Duncan & Prasse's Veterinary Laboratory Medicine: Clinical Pathology, 5th Ed. (2011)	☒ or Library:	☐	☐	☐
Feldman, Zinkl and Jain: Schalm's Veterinary Hematology, 6th Ed. (2010)	☒ or Library: Cornell	☐	☐	☐
Norman and Streiner: Biostatistics- the Bare Essentials, 4th Ed. (2014)	☒ or Library:	☐	☐	☐
The following Journals are considered required for Candidates; They are available to ACVIM Diplomates through the Texas A&M University Library: http://guides.library.tamu.edu/acvim				
Journal of Veterinary Internal Medicine	☐ or Library:	☒	☐	☐
Journal of the American Veterinary Medical Association	☐ or Library:	☒	☐	☐
American Journal of Veterinary Research	☐ or Library:	☒	☐	☐
Journal of the American Animal Hospital Association	☐ or Library:	☒	☐	☐
Veterinary Clinical Pathology	☐ or Library:	☒	☐	☐
Veterinary and Comparative Oncology	☐ or Library:	☒	☐	☐
Veterinary Pathology	☐ or Library:	☒	☐	☐
Veterinary Surgery	☐ or Library:	☒	☐	☐
Veterinary Radiology and Ultrasound	☐ or Library:	☒	☐	☐
Journal of Small Animal Practice	☐ or Library:	☒	☐	☐

Research in Veterinary Science	☐ or Library:	☒	☐	☐
Veterinary Immunology and Immunopathology	☒ or Library: Cornell	☐	☐	☐
Cancer	☒ or Library: Cornell	☐	☐	☐
New England Journal of Medicine	☒ or Library: Cornell	☐	☐	☐
Clinical Cancer Research	☒ or Library: Cornell	☐	☐	☐
Nature Reviews: Cancer	☒ or Library: Cornell	☐	☐	☐
Cancer Research	☒ or Library: Cornell	☐	☐	☐
Cancer Chemotherapy & Pharmacology	☒ or Library: Cornell	☐	☐	☐
Journal of Feline Medicine and Surgery	☒ or Library: Cornell	☐	☐	☐
Journal of Comparative Pathology	☒ or Library: Cornell	☐	☐	☐
BMC Veterinary Research	☒ or Library: Cornell	☐	☐	☐
The Veterinary Journal	☒ or Library: Cornell	☐	☐	☐
Nature	☒ or Library: Cornell	☐	☐	☐
Cell	☒ or Library: Cornell	☐	☐	☐
Science	☒ or Library: Cornell	☐	☐	☐
PLos Journals	☒ or Library: Cornell	☐	☐	☐
BMC (Biomed Central) Journals: Genomics, Cancer, Genetics, Molecular Cancer	☒ or Library: Cornell	☐	☐	☐
Cancer Immunology/Immunotherapy	☒ or Library: Cornell	☐	☐	☐
Clinical and Experimental Metastasis	☒ or Library: Cornell	☐	☐	☐
Oncogene	☒ or Library: Cornell	☐	☐	☐
Mammalian Genome	☒ or Library: Cornell	☐	☐	☐
Cancer Gene Therapy	☒ or Library: Cornell	☐	☐	☐

Comments:

17. Is there any additional pertinent information that the Residency Training Committee should consider in its evaluation of this training program?

Yes	No
☐	☒

Comments:

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

Per the Certification Manual, each year, the Program Director 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 Residency Training Program.