# ACVM DIPLOMATE MAINTENANCE OF CERTIFICATION POLICIES & PROCEDURES

#### **Introduction**

The American College of Veterinary Microbiologists has established a program of maintenance of certification (MOC) for Diplomates.

**Purpose:** To assist active Diplomates in maintaining the quality of educational expertise and the recognition of such qualifications.

**Rationale:** The purposes of formal maintenance of certification (MOC) can best be met by consistent, documented participation in a combination of scholarly activities, professional development, and service to veterinary medicine, laboratory microbiology, immunology, and/or parasitology specialties, and the biomedical community.

MOC Requirements: Maintenance of American College of Veterinary Microbiologists board certification was initiated in 2016. The AVMA American Board of Veterinary Specialties (ABVS) requires MOC for anyone certified in 2016 and beyond. MOC of Diplomates will be required at eight (8) year intervals, commencing with the first calendar year following initial certification. All Diplomates certified in 2016 or after will be audited in the 8<sup>th</sup> year after their initial certification, and in every 8<sup>th</sup> year thereafter. For example, a 2016 Diplomate must be certified by 2024. All materials for certification must be submitted by June 30 of the final year of the certification cycle in order to give the MOC Committee adequate time to review the submitted materials. Refer to **Appendix 2** for an example timeline for Maintenance of Certification.

Diplomates with multiple certifications (different specialties in microbiology OR microbiology and parasitology) are required to meet the MOC requirements for each time-limited certificate obtained in 2016 or later.

# Maintenance of Certification may be obtained in two (2) ways:

- 1. Professional Development/Continuing Education (procedure 1): Documenting continuing professional development (credits) activities in veterinary medicine, particularly veterinary microbiology, bacteriology, mycology, immunology, virology, parasitology, and infectious diseases or related areas (biomedical research, vaccinology, biotechnology, infectious pathology, preventive medicine, etc.), during the current MOC period as outlined in **Appendix 1.**
- 2. ACVM Specialty Examination(s) (procedure 2): Passing the current ACVM specialty board certification examinations. Diplomates who have/are serving on the examination committee can only utilize this route as outlined in the ACVM By-Laws. Diplomates who are certified in more than one specialty will have to pass each specialty examination separately.
  - a. The earliest a Diplomate may attempt the examination is two years before the year of the required MOC evaluation. For example, a Diplomate originally certified in 2016 may apply for recertification via examination in 2022, 2023, or 2024. Refer to **Appendix 2** for example timeline for MOC.
  - b. The number of attempts allowed at the examination for certification is described in the ACVM By-Laws.

# **Professional Development/Continuing Education procedure**

MOC credits will only be applied for the specialty passed by the Diplomates during the 8-year MOC cycle. For example, a Diplomate originally certified in 2016 using the Professional Development route may apply for recertification in 2021, 2022, 2023, or 2024. Refer to **Appendix 2** for example timeline for MOC.

Early Recertification: Diplomates who accrue the necessary credits for the whole 8-year period as outlined in Appendix 1 before the end of the 8-year period may request early recertification. Credits must be accrued over a period of at least 4 years. The early request for recertification must be made through the website portal The MOC Committee will examine the credits and make a decision regarding early recertification. All decisions of the MOC Committee that are approved by the Board of Governors (BOG) will be final. There will be no appeal process for failure to grant early recertification. For those Diplomates who successfully recertify early, the "MOC clock" will restart only after completing the regular 8-year cycle and not in the year of early certification. For example, Diplomates certified in 2016 will remain active until 2024, and successful early recertification will extend the MOC certificate date to 2032. Any Diplomate who does not have sufficient credits accepted by the MOC for early certification will not be able to appeal and will be held to their original 8-year deadline.

**Exemption from MOC:** Diplomates certified prior to 2016, Emeritus Diplomates and Honorary Diplomates/Members are exempted from the MOC process; Diplomates certified prior to 2016 are encouraged to upload MOC certification materials into the ACVM website.

**Diplomates not meeting MOC requirements:** Individuals who have lost Diplomate status or are not able to fulfill their MOC credits during their recertification cycle must reapply to take the ACVM examinations, according to the prevailing ACVM By-Laws applicable to non-diplomates.

### **Establishment of Accrued Credits for MOC:**

A minimum of 400 MOC credits must be attained during each 8-year MOC period

For Diplomates in the Microbiology specialties:

- 100 credits must be in the subject area of specialization (bacteriology & mycology, virology, immunology)
- 300 credits can be from any subject area covered in the general veterinary microbiology examinations. (Refer to the ACVM certification procedure document, <a href="https://www.acvm.us/documents/certification-procedure.pdf">https://www.acvm.us/documents/certification-procedure.pdf</a>).

For Diplomates in the Parasitology specialty:

• 400 credits can be from the subject area covered in the parasitology general and/or parasitology specialty examinations. (Refer the ACVM certification procedure document, <a href="https://www.acvm.us/documents/certification-procedure.pdf">https://www.acvm.us/documents/certification-procedure.pdf</a>).

Diplomates with more than one (1) specialty certification must also attain 100 extra credits per specialty in addition to the 400 MOC credits detailed above. The additional credits must be specific to the respective specialization. Up to 50 credits (out of 100) may be shared between specialties if overlap can be justified.

- For example, credits for "scholarly publication" on viral vaccines may be counted towards both virology and immunology specialization, and credits for attending general microbiology meetings may be counted towards multiple specialties
- Diplomates with more than one specialty certification that do not fall under the same certification cycle may apply for **early recertification** of their later specialization(s) to synchronize the MOC

cycles for all the specialties. This can be done by submitting necessary additional credits (prorated 100 credits for each certification cycle) for all specializations along with the MOC credits due for a current recertification application cycle. For example, a 2016 Diplomate in Virology who gets certified in Immunology specialty after 3 years (2019) can apply for recertification in both specialties at the time of their Virology recertification due date (2024) by submitting extra 62.5 (5 years x average 12.5 credits/year) credits for their Immunology specialty. The start date of both specialties would be synchronized to that of the early specialization (2024 in the above example.)

Information on the different categories in which MOC credits can be accrued is provided in **Appendix 1.** 

**Excess Credits:** Credits accrued during the last 3 years of the ongoing MOC cycle can be transferred to the subsequent 8-year cycle if they are more than the minimum credits needed for recertification (400 credits for a single specialty, 400 credits + 100 credits per additional specialty for multiple specializations.)

### **Accounting Procedure:**

The MOC Committee shall utilize the online portal system for reviewing documentation of Professional Development/Continuing Education, Scholarly Activity, and Service Credits uploaded by Diplomates and establish/revise the criteria for auditing these credits. ACVM shall provide the standardized format for submitting the Diplomate's MOC credits (i.e., the database). For credit submission, please refer to the "List of Credits for MOC" section below. Uploading supporting documents to the online portal for claiming MOC credits is highly recommended. Refer to **Appendix 1** for further details.

Each Diplomate will be responsible for the online entry and submission of MOC credits, which will be evaluated by the MOC Committee. It is recommended that Diplomates submit accrued credits at least annually. A running tally of the Diplomate's credits for each category applied to the 8-year MOC cycle is displayed on the online system. Diplomates should round up when calculating a partial hour of service or meeting attendance. Submitted credits will be reviewed by the MOC committee. The deadline for the submission of the credits will be June 30<sup>th</sup> of the 8<sup>th</sup> year. The MOC Committee will consider any worthwhile activity that demonstrably contributes to an individual's professional development or maintenance of certification in the ACVM (bacteriology and mycology, immunology, virology and parasitology) specialties. The committee will make their recommendations to the BOG for final approval. Approval of the credits will be reflected in the portal by February 28<sup>th</sup> in the 9<sup>th</sup> year. The MOC Committee will notify the Diplomate regarding any questions on the credit submissions by January 30<sup>th</sup>. A new record will be created for each new MOC cycle.

#### **Process:**

Diplomates who meet the MOC requirements via routes 1 or 2 will receive a new ACVM Certificate with the updated expiration date for the subsequent 8-year cycle.

- 1. The Diplomate is encouraged to submit accrued credits and supporting documents annually to confirm the acceptability of those credits, thereby reducing the potential number of appeals. Upon review by the MOC committee, the total credits accrued during each MOC cycle will be available through the online system.
- 2. The MOC Committee will establish/revise the criteria for evaluating the MOC credits submitted by the Diplomate.

- 3. If any of the Diplomate's proposed credits are rejected, the MOC Committee will inform the Diplomate of which credits were unacceptable and the reason(s) that they were not accepted.
  - a. Even though some of the credits accrued are found to be unacceptable, the Diplomates may have accrued sufficient credits for recertification from other sources. The unaccepted credits cannot be applied to the next MOC cycle.
  - b. In cases where the rejection of credits leaves the candidate with fewer credits in their 8<sup>th</sup> year than required for MOC, the Diplomate will be contacted by the college by email and certified mail to ensure that they receive notification about the risks to their certification status. All correspondence to the Diplomates will be made to the addresses on file on the website provided by the Diplomate. It is the responsibility of the Diplomate to update the ACVM of any change in address for correspondence.
- 4. Following notification of non-acceptance by the MOC Committee, the Diplomate will be given 45 days to:
  - a. provide additional justification and information supporting the reinstatement of the rejected credits

or

- b. submit information on substitute credits.
- 5. MOC committee will review all new submissions/justifications within one month of receipt, and the Diplomates will be notified by email.
- 6. Once the credits are approved by the committee and the BOG, the Diplomate will receive a new ACVM Certificate with the updated expiration date for the subsequent 8-year cycle.

**Status of Recertified Diplomates/Directory Listing**: In accordance with the ABVS Policy and Procedures, ACVM Diplomates certified in 2016 and beyond are required to recertify/maintain certification, according to the ACVM MOC document approved by the ACVM BOG. The ACVM Diplomates who were certified prior to 2016 are not mandated to participate in the MOC program.

A Diplomate whose record of MOC is rated as insufficient shall receive notice of the decision with the reason(s) for the refusal by email and certified mail to the addresses on file on the website provided by the Diplomate. It is the responsibility of the Diplomate to update the ACVM of any change in address for correspondence. The Diplomate may appeal the decision as described in this document.

Those Diplomates required to maintain certification and whose certification has lapsed or whose MOC application has been denied will no longer be active ACVM Diplomates. To regain diplomate status, the candidates will have to prove eligibility and follow procedures for certification as per prevailing ACVM examination policies for non-Diplomates.

# **Emeritus Diplomates:**

When an active Diplomate applies for and is granted Emeritus status by the BOG, the Secretary will promptly update their status on the ACVM website. The Diplomate will subsequently be exempted from all MOC requirements and will be listed as "Emeritus.".

• If an "Emeritus" individual elects to re-enter the specialty, they must meet the MOC criteria accepted by the ACVM.

#### List of Credits for MOC: (400 credits required over an 8-year period)

Diplomates are encouraged to accrue credits in multiple categories (A, B, or C). Credits must be obtained in at least 4 years of the 8-year cycle.

### A. Professional Development/Continuing Education

- 1. Attendance at veterinary specialty meetings (in-person/ virtual): focused meetings (i.e., ACVM, American Association of Veterinary Laboratory Diagnosticians (AAVLD), Conference of Research Workers in Animal Disease (CRWAD), American Association of Veterinary Parasitologists (AAVP), American Association of Veterinary Immunologists (AAVI)) 10 credits per half day
- 2. Attendance at other acceptable meetings (in-person/virtual) (Other Animal Disease and Microbiology organizations in the United States and the rest of the World): United States Animal Health, American Veterinary Medical Association, American Society of Microbiology, American Society of Virology, American Association of Immunologists, American Society for Parasitologists, Infectious Diseases Society of America, etc. (e.g., special meetings on diagnostic, taxonomy, treatment, prevention, i.e., relevant to the ACVM specialties); other Specialty Societies ACVIM, AAVPT, ACLAM, ACVP, ABVP, ACVPM, STP; State and Regional Meetings; Species groups AAHA, AAFP, AABP, AASV) 10 credits per half day.
- 3. Preparation of ACVM-approved examination and/or continuing education materials for ACVM 1 Credit/hr. Maximum of 30 Credits per year.

  Exam questions can only be submitted to the Exam Committee from January-March each year. The Exam committee must approve the submitted questions for the MOC credit to be awarded. Once approved, the Exam Committee will notify the MOC committee, and the credits will be awarded. Diplomats must contact the Exam Committee chair for guidance on content and format of questions before they are submitted. Questions from New Diplomates don't qualify for MOC credits- 10 Credits/ question; 3 approved questions allowed per year.
- 4. Attendance at acceptable educational seminars, educational training, or courses related to the ACVM specialties: 0.5 Credit/hr. If the educational seminar, training, or course is approved by RACE (Registry of Approved Continuing Education of the American Association of Veterinary State Boards), the RACE-approved hours will be used.

### **B. Scholarly Activities**

- 1. Publication in veterinary microbiology, bacteriology, mycology, immunology, parasitology and/or virology-focused media (peer-reviewed journals, books, scientific materials, product information brochures etc.): 50 credits First Author /40 credits Corresponding Author /30 credits Other Author. If the first author is also the Corresponding Author, the higher selected credits will be granted; a combination of credits is not allowed.
- 2. Publication in other media or areas related to veterinary, medical, biomedical, environmental, or fundamental aspects of bacteriology, mycology, immunology, parasitology and/or virology: 45 credits First Author / 35 credits Corresponding Author/ 25 credits Other Author. If a first author is also the Corresponding Author, the higher selected credits will be granted; a combination of credits is not allowed.
- 3. Presentation, abstract/poster presented at any local, regional, national, or international meeting: 15 credits First Author / 10 credits Other Author.
- 4. Teaching/lecturing (classroom /laboratory) 4 credits per contact hour. Maximum of 80 credits per year. A list of lectures, training program activities and a short description of the details and relevance to the ACVM specialties must be provided. Partial credits may be claimed for lectures and training program activities if only part of a lecture/training was given (e.g., 0.5 hr) or if only the part of a lecture/training was related to the ACVM specialties.
- 5. ACVM Continuing Education Webinar- present in the ACVM CE Webinar Series: 40 credits/presentation
- 6. Reviewer/editorial board for journal: 1.5 credits per reviewed manuscript (proof of manuscript reviewed must be submitted. Maximum of 60 credits per year for the manuscript reviewers) or 30

- credits per year of documented service as an editor (or associate editor/editorial board). If the manuscript reviewer is also an editor (or associate editor/editorial board), the higher selected credits will be granted based on the proof submitted.
- 7. Development and coordination of in person or online graduate course: 50 credits if the course is presented.
- 8. Residency or Ph.D. fellowship Mentor: 10 credits per documented resident or Ph.D. student per year. Maximum 3 resident trainees or Ph.D. students per year. List names of trainees, training program description and registration start date for each trainee must be provided. Partial credits may be claimed for training programs registered for only part of a reporting year.

### **C.** Service Activities

- 1. Efforts devoted to veterinary microbiology, bacteriology, mycology, immunology, parasitology, and/or virology science organizations: 0.5 credits/hr. Maximum of 30 credits per year -. Organizations include but are not limited to: ACVM, AAVI, AAVPT, AAVLD, ACVPM, CRWAD, ASM, AAI, AAVP, etc. This also includes veterinary microbiology, bacteriology, mycology, immunology, parasitology and/or virology activities in broader organizations such as AVMA, NIH, FDA, USDA- APHIS, EPA, CDC, and scientific and professional organizations at the state, national, and international levels. Proof of the activity is encouraged.
- 2. Jobs in Microbiology or related laboratory: 10-50% of FTE: 4 credits per year and >50% of FTE: 8 credits per year (No documentation is required for this category. As this category is to reflect the percentage performed in a given calendar year, only one submission per year is allowed.)
- 3. Professional Supervisor (laboratory chief, director, etc.): 3 credits per one supervised person/year. Maximum of 40 credits per year. The position description for the professional supervisor, the list of names/positions of the supervised staff, and the supervising activity dates must be provided and confirmed by a higher-ranking member of the institution.
  - a. The supervision of professional staff (e.g., veterinary/animal care technician, veterinarian, biologist, chemist, M.S., M.D., or Ph.D.) is required to claim in this category. Partial credits may be claimed for the professional duty registered for only part of a reporting year or partial supervising of a person.
  - b. For all other employees (not supervisors), routine job responsibilities in veterinary microbiology, bacteriology, mycology, immunology, parasitology and/or virology for their employers are not considered to be service activities for credit purposes.
- 4. Participation as a member of a veterinary disaster response team (proof of training and/or deployment in support of an operation are required; membership on a team alone does not qualify for credit); 3 credits per training and 3credits per hour of a response effort in a veterinary disaster response team in response to any disease outbreak at county/state/national/international levels).

# D. Procedures for approving MOC eligible activities not listed in **Appendix 1**

- a. Diplomates must submit a report detailing any activities currently not listed in Appendix 1 for consideration by the committee for MOC credits. The report should specify under which of the above 3 categories (A,B,C) their activities should be considered.
- b. MOC credits may be requested multiple times for the same activity performed at different occasions.
- c. MOC committee reviews all requests and will decide if the activity will be acceptable for credit and how much credit can be awarded.
  - i. All requests must be submitted no later than June 30<sup>th</sup> to be considered for that year's activity.

### **Appeals Process:**

If the rejection of the candidate's submitted credits leads to failure to accrue necessary credits to qualify for MOC, the Diplomate may appeal the decision of the MOC Committee by submitting an appeal in writing to the BOG within thirty days of being notified by the MOC Committee. The Board will appoint an appeals committee consisting of no less than three members of the college in good standing, none of whom may be members of the MOC Committee, to evaluate the merits of the appeal and the findings of the MOC Committee. The Appeals Committee shall make a final decision on the appeal and report the decision to the BOG. The decision shall be reported to the Diplomate by email within thirty days of receiving the appeal.

During any appeal process, any college publications, membership directories, etc., in which the certification status of members is listed shall list the status of the member as "Inactive."

- 1. In the event the Diplomate is rendered unable to fulfill the MOC requirements on schedule due to an incapacitating illness, the MOC Committee may vote to extend the deadline for MOC.
- 2. There will be no appeals process for those Diplomates who request early MOC.
- 3. There will be no appeals process for determining the suitability of the submitted ACVM examination material.

#### Maintenance of Certification Fees, Deadlines, and Links:

Active members as defined by the ACVM By-Laws do not need to pay an MOC fee; MOC review is included in the annual fee payment to the college required to stay active. Inactive members need to pay fees sufficient to re-gain active status as defined by the ACVM By-Laws.

MOC Portal can be accessed by first logging in with member credentials, then selecting the Member dropdown and selecting Update MOC.

### **Contact Information:**

All inquiries should be directed to the MOC committee or to the ACVM Secretary (info@acvm.us)

# APPENDIX 1

Activity	Number of credits per activity	Any other exceptions	Supporting document to submit
Professional development/ Continuing			
<b>Education Attendance</b>			
Attendance at VMP focused meetings     Attendance at other justifiable meetings	10/half-day		Registration; Certificate of attendance; Copy of program schedule including date, location, meeting name, and the number of days.
3. Preparation of ACVM-approved exam or CE material	10/approved question	Max. 30 credits/year	Letter/email confirmation from the exam or CE committee for the approval of exam questions/CE materials.
4. Continuing education/other educational seminars	0.5/ hour		Registration; Certificate of completion; Title of the lecture or laboratory course work; Name of the speaker; # of contact hours.
Scholarly Activities			
Publication in specialty-focused media (pe	er-reviewed journals,	books)	
First Author	50		DOI#; Pub Med ID; ISBN#
Corresponding Author	40		OR proof of acceptance by
Other Author	30		the publisher
Publication in other media related to veterion of microbiology, bacteriology, mycology,	=		ental or fundamental aspects
<ul><li>First Author</li></ul>	45		DOI#; Pub Med ID;
Corresponding Author	35		ISBN#,ORproof of
Other Author*	25		acceptance by the publisher/sponsor
Presentation, abstract/poster presentation			
First Author	15		Email confirmation or
Other Author	10		Program page/schedule. Poster/ presentation title; Abstract
Teaching/Lecturing	4/contact hour	Max. 80 credits /year	Title; Course number and name, a short description of the details and relevance to the ACVM specialties
ACVM CE webinar	40/presentation		Title, Date of delivery, webinar URL

Reviewer /editorial board ^	2/manuscript	Reviewer: Max. 60 credits/year Editor: Max 30 credits /year	Proof of manuscript reviewed.
Development and coordination of gradu	ate classes		
Online/traditional graduate class	50/class		List names of trainees, training program description, and registration start date for each trainee
Mentoring     Resident/graduate/undergraduate     student	10/ student/year	Max. 3 students /year	
Service Activities			
Efforts devoted to professional organizations.	0.5/hour	Max. 30 credits /year	Proof of the activity
Professional Supervisor	3/person/year	Max 40 credits /year	Position description, list of names/positions of the supervised staff, supervising activity dates, confirmed email/letter by a higher supervisor of the institution.
Jobs in Microbiology or related laborato	ory		1
10-50% of FTE	4/year		No documentation required
>50% of FTE	8/year		for this. Only one submission per year is
Participation in veterinary disaster responsible (county/state /national/ internat		as a team	
Training	3/training		Proof of training
Response effort	3/hour		Proof of deployment in support of an operation.

<sup>\*</sup>If an author is also the corresponding author, the highest selected credits will be granted. A combination of credits is not allowed.

NOTE: Multiple presentations of the same materials will be awarded credits one time only.

R.A.C.E-approved hours will be applied whenever applicable.

Name the document before uploading. File names should be written in the following format: "Document type" and "year earned."

<sup>^</sup>If the manuscript reviewer is also an editor (or associate editor/editorial board), the higher selected credits will be granted based on the proof submitted.

**Appendix 2** Example Timeline for Maintenance of Certification

Event	Timeline		
Date of Certification	Dec 30, 2016		
MOC requirements should be met by	Dec 30, 2024		
Maintenance of Certification by accruing credits:			
Earliest date submitted credits will be evaluated	Dec 30, 2017		
Earliest date "Early recertification" can be requested	Dec 30, 2020		
• Final deadline for submitting accrued credits (Year 8)	June 30, 2024		
Maintenance of Certification by re-examination			
Earliest year candidate can appear for examination	2022		
Latest year candidate can appear for examination	2024		

# **Exceptional Circumstances:**

In exceptional circumstances (as a result of disability or other personal or professional circumstances that may significantly interrupt or prevent activities that would result in the accumulation of credits) and with the prior approval of the MOC Committee, credits may be accumulated in other ways, such as purchase and reading of relevant textbooks and journals, completion of self-assessment questions, and/or other self-assessment programs. In the event the Diplomate is rendered unable to fulfill the MOC requirements on schedule due to an incapacitating illness or other problems, the MOC Committee may vote and decide, with approval of the BOG, to extend the deadline for MOC on a case-by-case basis.

#### **Definitions:**

**Veterinary Microbiology**: information representing Veterinary Microbiology as defined in the ACVM By-Laws.

Veterinary Microbiology, Bacteriology, Mycology, Immunology, Parasitology and/or Virology (VMP) Focused Meetings include but are not limited to: ACVM, American Association of Veterinary Laboratory Diagnosticians (AAVLD), Conference of Research Workers in Animal Disease (CRWAD), American Association of Veterinary Parasitologists (AAVP), American Association of Veterinary Immunologists (AAVI). The Diplomate will decide if it is focused on VMP or not. The MOC Committee may ask for clarification or decrease the credits if the meeting is not determined to be VMP-focused.

"Other" Acceptable Meetings include but are not limited to: local, state, and national meetings on veterinary clinical medicine, biomedical sciences, medical, environmental or fundamental aspects, or other subjects deemed valuable to the veterinary microbiology and/or parasitology (may include: pathology, microbiology, physiology, pharmacology, genetics, teratology, toxicology, neuroscience, cellular biology, molecular biology, etc.)

**ACVM Approved Continuing Educational Materials**: are those approved for self-study and MOC credits by the ACVM Continuing Education Committee.

**Self-Study of CE Material:** When requesting credit for self-study of continuing education materials, include the names of the specific journals/publications or materials.

Acceptable Educational Seminar, Educational Training, or Course include: Acceptable educational seminars, educational training, or courses (online or traditional classes) are reserved for the graduate level or equivalent formal educational seminars or courses in any subject that enhances the Diplomate's direct or ancillary knowledge in Microbiology, Bacteriology, Mycology, Immunology, Parasitology and/or Virology, and Clinical or Laboratory Veterinary Medicine. Acceptable educational seminars or coursework may include the following: resource management, OSHA/regulatory courses, pathology, microbiology, biotechnology, physiology, epidemiology, public health, infectious diseases, vaccinology, pharmacology, cellular biology, molecular biology, etc.

# **Veterinary Microbiology and/or Parasitology (VMP) Focused Publications include:**

Veterinary Microbiology, Veterinary Immunology, Immunopathology, Preventative Veterinary Medicine, Vaccine, Journal of Bacteriology, Infection and Immunity, Journal of Virology, American Journal of Veterinary Research, Journal of American Veterinary Medical Association, Journal of Veterinary Diagnostic Investigation, Journal of Immunology, Journal of Clinical Microbiology, Applied and Environmental Microbiology, Clinical Microbiology Reviews, Antimicrobial Agents and Chemotherapy, Clinical and Vaccine Immunology, Infection and Immunity, Fungal Biology, Journal of Fungi, Frontiers in Fungal Biology, International Journal of Systematic and Evolutionary Microbiology, etc.

#### "Other" Publications include:

The Bovine Practitioner, Swine Health and Production, clinical reports in JAVMA, etc.

#### "Author" includes:

Author of the manuscript in the refereed journal and book editor, chapter author, or author of auto-tutorial slide set, video, etc. The submission is left to the discretion of the Diplomate.

### **Teaching/Lecturing includes:**

Acceptable teaching is generally reserved for College or professional-level teaching. However, other examples may include continuing education courses where practitioners received CE credit or training sessions/courses provided for professional staff and seminars for general public.

#### **Service Activities include:**

Efforts devoted to microbiology/parasitology science organizations, including AAVI, ACVM, CRWAD, ACM, AAI, AAVP, etc. This also includes microbiology/parasitology science activities in broader organizations such as AVMA, NIH, FDA, USDA-APHIS, EPA, CDC, and scientific and professional organizations at the state, national and international levels.

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