MEMORANDUM

TO: Cheng-i Wei
   Dean, College of Agriculture and Natural Resources

FROM: Elizabeth Beise
       Interim Associate Provost for Academic Planning and Programs

SUBJECT: Proposal to modify Admissions Criteria for M.S./Ph.D. in Veterinary Medical Sciences (PCC log no. 09005)

At its meeting on October 16, 2009, the Senate Committee on Programs, Curricula and Courses approved your proposal to modify the admissions criteria for the M.S./Ph.D. in Veterinary Medical Sciences. A copy of the approved proposal is attached.

The changes are effective Spring 2010. The College should ensure that the changes are fully described in the Graduate Catalog and in all relevant descriptive materials, and that all advisors are informed.

MDC/

Enclosure

cc: Alex Chen, Chair, Senate PCC Committee
    Sarah Bauder, Office of Student Financial Aid
    Reka Montfort, University Senate
    Erin Howard, Data Administration
    Donna Williams, Institutional Research & Planning
    Anne Turkos, Archives
    Linda Yokoi, Office of the Registrar
    Thomas Castonguay, Graduate School
    Siba Samal, Department of Veterinary Medicine
DATE SUBMITTED_March 6, 2009

DEPARTMENT/PROGRAM_Veterinary Medicine

PROPOSED ACTION (A separate form for each) ADD______ DELETE______ CHANGE_X__

DESCRIPTION (Provide a succinct account of the proposed action. Details should be provided in an attachment. Provide old and new sample programs for curriculum changes.)

Change in student criteria for admission to VMSC Graduate Program to allow students not holding a DVM or equivalent degree eligibility for application to the VMSC Graduate Program at the Maryland Campus of the Virginia-Maryland Regional College of Veterinary Medicine (VMRCVM). No other changes will be made to the existing VMSC Graduate Program.

JUSTIFICATION/REASONS/RESOURCES (Briefly explain the reason for the proposed action. Identify the source of new resources that may be required. Details should be provided in an attachment.)

To align the VMSC Graduate Program at the Maryland Campus of the VA-MD Regional College of Veterinary Medicine (VMRCVM) with that of the VMRCVM, Blacksburg, VA Campus and with those of all other 27 veterinary schools in North America. No additional resources are required for the proposed change. This change will attract excellent students to UMD and will improve the morale of our VMSC graduate students, both of which goals are in line with UMD Strategic Plan. This change will not affect the relationship of the VMSC Graduate Program with other graduate programs at the UMD campus.

APPROVAL SIGNATURES - Please print name, sign, and date

1. Department Committee Chair: Dr. Utpal Pal

2. Department Chair: Dr. Siba K. Samal

3. College/School PCC Chair: Dr. Scott Glenn

4. Dean: Dr. Cheng-I Wei

5. Dean of the Graduate School (if required): Dr. Charles A. Caramello

6. Chair, Senate PCC: 

7. Chair of Senate: 

8. Vice President for Academic Affairs & Provost: Dr. Nariman Farvardin
PROPOSED MINOR CHANGE TO ACCEPT NON-DVM APPLICANTS
TO THE VETERINARY MEDICAL SCIENCES GRADUATE PROGRAM
OF THE VIRGINIA-MARYLAND REGIONAL COLLEGE OF VETERINARY MEDICINE
AT THE UNIVERSITY OF MARYLAND, COLLEGE PARK

Summary

Currently, the Maryland Campus of the Virginia-Maryland Regional College of Veterinary Medicine (VMRCVM) admits only students with a Doctor of Veterinary Medicine (DVM/VMD) or equivalent degree in veterinary medicine (e.g. BVSc) to the Veterinary Medical Sciences (VMSC) Graduate Program. This is the only graduate program in the United States and Canada that does not allow students without a DVM or equivalent degree to apply. VMSC Graduate Program applicants who do not have a DVM or equivalent degree must come to the VMRCVM Maryland Campus through other UMD graduate programs to complete their graduate education. Each program has different policies and procedures. Hence, these non-DVM graduate students then study under the supervision of a Veterinary Medicine faculty. These students are financially supported by the Veterinary Medicine faculty on the VMRCVM Maryland Campus, but receive their degrees from the graduate program through which they were admitted. Some highly-talented students interested in the veterinary medical program at UMD find this arrangement unappealing and, therefore, choose not to come to UMD. We are requesting a minor change to the admission requirements of the VMRCVM Graduate Program to allow applicants not possessing a DVM or equivalent degree to be eligible for admission to the VMSC Graduate Program. This action is also requested and required in order to align admission requirements of the VMSC Graduate Program at the VMRCVM, Maryland Campus with its counterpart at the VMRCVM, Blacksburg, VA Campus and with all other thirty-two colleges of veterinary medicine across the United States (27) and Canada (5). This change is necessary for the Maryland Campus to become a true joint partner of the VMRCVM and similar to all other colleges of veterinary medicine. The current exclusive admission requirements of the VMSC Graduate Program at the VMRCVM Maryland Campus negatively impact the accreditation of the VMRCVM by the American Veterinary Medical Association. The requested action will have no effect on the curriculum of the current VMSC program, nor on any other graduate program at the College Park campus. The VMRCVM Maryland Campus will continue to accept applicants from all other graduate programs at the College Park Campus, and therefore, the proposed change will not affect the relationship of the VMSC Graduate Program with any other graduate program on this campus. The addition of a few non-DVM students will not require any additional resources since all resources necessary for the VMSC Graduate Program are already in place. This change will attract excellent students to UMD, increase the diversity of our student population, result in equal requirements and treatment for all graduate students in the department, and improve the morale of all of our graduate students. No other changes to this, nor any other graduate program, are being proposed herein.
PROPOSED MINOR CHANGE TO ACCEPT NON-DVM APPLICANTS TO THE VETERINARY MEDICAL SCIENCES GRADUATE PROGRAM OF THE VIRGINIA-MARYLAND REGIONAL COLLEGE OF VETERINARY MEDICINE AT THE UNIVERSITY OF MARYLAND, COLLEGE PARK

Proposal

The Virginia-Maryland Regional College of Veterinary Medicine (VMRCVM) was established in 1980 between the states of Maryland and Virginia as a joint college offering a regional program in Veterinary Medicine. It was agreed that there would be two campuses—one at Virginia Polytechnic Institute and State University (now known as Virginia Tech [VT]) and one at the University of Maryland, College Park (UMD). It was also agreed that, in addition to the joint DVM program, there would be parallel graduate programs, and collaborative research and extension activities (see Appendix 1). Accordingly, the Veterinary Medical Sciences (VMSC) Graduate Program was established at UMD in 1998 to parallel the VMSC Graduate Program at VT. However, the VMSC Graduate Program at VT admits only students holding a DVM degree while the parallel program at VT admits students holding a DVM and those who hold degrees in other disciplines (see Appendix 2). Currently, the UMD VMSC Graduate Program is the only graduate program of 33 veterinary colleges in North America that does not allow the admittance of non-DVM applicants (see Appendix 3). Veterinary Medicine graduate students at UMD not holding DVM degrees are admitted through other Campus graduate programs, each with its own requirements. This creates several different classes of students, not only at the UMD VMRCVM campus, but also between the two parallel graduate programs at the VT and UMD campuses of the VMRCVM. Having students not holding DVM or equivalent degrees in the VMSC program will result in equal requirements for our graduate students and will enhance the accessibility of excellent non-DVM students to the program, thereby strengthening our current graduate program.

In the recent American Veterinary Medical Association (AVMA) accreditation of the VMRCVM and in the external review of the Department of Veterinary Medicine at UMD, both committees indicated that, to be a true joint College of Veterinary Medicine, there must be graduate education and research collaboration between both campuses. It was also strongly recommended that applicants not holding DVM or equivalent degrees be admitted to the VMSC Graduate Program at UMD to parallel all other veterinary schools in North America.

With the hiring of new, talented faculty over the past several years, the UMD VMSC Graduate Program and research activities have expanded dramatically. Currently, with six (6) tenured/tenure-track research faculty, the department holds $17M± in extramural funding. This has substantially increased our number of graduate students and has provided funding for 3 research assistant professors, 3 staff scientists and 13 postdoctoral research associates. We expect to increase our research faculty to ten (10) within the next two years, which will further increase our number of graduate students.

Our goal is to elevate our graduate education and research program to an even higher level to become one of the best graduate education and research programs in the world within the next five years, which will also meet the Campus vision and align with Campus goals as described in the new UMD Strategic Plan. We would like to point out that one of the few weaknesses of UMD is the lack of a medical school, which severely affects our ability to attract NIH funding. Expansion of the VMSC Graduate Program and the research at the UMD campus of the VMRCVM will rectify some of these deficiencies, particularly in the areas of emerging infectious diseases that are transmitted from animals to humans. Therefore, in order for us to achieve our goals and to help elevate the University to the next level of excellence, we
must improve our graduate program by recruiting outstanding students. One of the major impediments to this effort is our inability to admit applicants not holding a DVM or equivalent degree into our VMSC Graduate Program. This was also recognized in our Department’s final review meeting on April 28, 2008 with Provost Farvardin, Associate Provost for Faculty Affairs Scholnick, Associate Provost for Academic Affairs and Dean of the Graduate School Caramello, Associate Provost for Academic Programs and Planning Peres, Vice President for Research Bernstein, and College of Agriculture and Natural Resources’ Dean Wei, and it was unanimously agreed to take the steps necessary to accomplish the goal of having applicants not holding a DVM or equivalent degree admitted to the VMSC Graduate Program.

Our faculty feel strongly that, in order for our program to be nationally recognized, we must offer a superior graduate program, and a uniform VMSC requirement should be in place for all of our graduate students, which will align us with the graduate program policies of our peer institutions. This will also enhance the competitive ability of our graduate students for future employment.

Described below are the advantages of admitting applicants not holding a DVM or equivalent degree to our graduate program and the disadvantages of not allowing their admittance:

Advantages of admitting non-DVM applicants to the VMSC Graduate Program

- Admittance of non-DVM applicants to the VMSC Graduate Program will improve the morale of the graduate students at the UMD campus since all students will have a common point of entry to the veterinary medicine program and a uniform standard of training.
- Admittance of non-DVM applicants to the VMSC Graduate Program will enhance diversity among graduate students.
- The VMRCVM will be able to recruit outstanding students who are interested only in veterinary medicine, with no desire to join our department through a different graduate program.
- Admittance of non-DVM applicants to the VMSC Graduate Program will bring the UMD program in line with our partner at VT, which will make us a true joint college with similar programs at both campuses. This will be important for accreditation by the AVMA (see attached letter from Dean Gerhardt Schurig, VMRCVM - Appendix 4).
- Admittance of non-DVM applicants to the VMSC Graduate Program would align us with all other 32 veterinary colleges in North America where DVM and non-DVM students are equally admitted to their graduate programs.
- Several of our faculty hold NIH funding and our goal is to obtain an NIH Training Grant for our graduate students. The current practice of having students from various other graduate programs will make a training grant non-fundable due to lack of uniformity and focus. Having our students in a single graduate program will be highly beneficial to those efforts.
- The VMRCVM will be able to recruit outstanding faculty who are interested in joining a department with a uniform, single graduate program.
Disadvantages of not allowing non-DVM applicants admittance to the VMSC Graduate Program

• It is unappealing for some excellent non-DVM potential graduate students to work in the VMRCVM UMD campus program while being admitted through other graduate programs. Thus, our department and the campus lose good students. For example, Jim Boonyaratanakornkit, a Howard Hughes Medical Institute Research Scholar, was interested in pursuing a PhD degree in VMSC at UMD. Jim was eager to complete his degree here, but did not want to work through two programs. After much negotiation with Dr. Charles Caramello, Dean of the Graduate School, special permission was granted to allow Jim admission to the VMSC Graduate Program. In another case, in February 2009, Dr. Xiaoping Zhu, Associate Professor of Immunology in our department, received an enquiry from a potential graduate student in China who wished to join the VMSC Graduate Program, but refused to come through any other AGNR graduate program. This student, Wei Wei Song, has received a 4-year fellowship with full funding from the Chinese government. Wei Wei was adamant about not having to work through two separate programs to receive a doctoral degree in the field of Veterinary Medicine. Once again, special dispensation was requested from and granted by Dr. Caramello to allow the student direct admission into the VMSC Graduate Program. Without this action, the University of Maryland would have lost another outstanding student to another university.

• Students not holding a DVM or equivalent degree based at and supported by the UMD Campus of the VMRCVM but enrolled in other graduate programs must still complete those other program requirements (coursework, seminar attendance, and other aspects) that are specific to the particular department and have very little relativity to veterinary medicine, which doubles their workload and adversely affects their graduate education and focus.

• Students not holding a DVM or equivalent degree receive their graduate training in veterinary medicine, but the graduate program disciplines listed on their CVs and diplomas do not match their veterinary medical training. This is confusing to prospective employers (See Appendix 5, CRITIQUE 2, Paragraph 2) and can have possible adverse affects on the students’ career opportunities.

• The current system creates different requirements for our graduate students, which is not a conducive environment for the students in our department. Veterinary Medicine faculty have to deal with very different policies and procedures for their students from different programs. This also increases the administrative burden for our faculty in dealing with several different graduate program curricula.

• Our off-campus location requires students to travel between campus buildings and the Gudelsky building, which is off Metzerott Road, across Rte 193 from the main campus. This is extremely inconvenient for our students.

• The current policy of admitting our non-DVM applicants through other graduate programs was a concern for prospective faculty during past employment interviews.

• This action will require no additional resources. Our resources are already in place for the VMSC Graduate Program and the addition of a few (5 – 10) more students will have no adverse effect.
Resources required for non-DVM applicant admittance to VMSC Graduate Program

- Several graduate students not holding a DVM or equivalent degree are already housed in our department, and therefore, no additional accommodations are necessary.

- With the addition of new faculty, we expect our graduate student complement to increase to 40± within the next five years. Our graduate study office and laboratory structures are adequate to support this number.

Relationship to other Graduate Programs

The Maryland Campus of the VMRCVM has a long history of active and positive relationships with faculty and graduate programs within and outside the College of Agriculture and Natural Resources. Many of our faculty have active research collaborations with faculty in other graduate programs, and faculty from other graduate programs serve as affiliate members in the VMSC Graduate Program. Moreover, there exist strong relationships and participation in the VMSC Graduate Program among adjunct faculty from external institutions, such as FDA, NIH and USDA. We plan to not only continue our relationships with other graduate programs, but to strengthen those relationships. For example, we have recently provided a letter of assurance to Dr. Arthur Popper to continue our association with the proposed, newly-defined BISI Graduate Program in the College of Life Sciences. We expect to continue the tradition of any graduate student from another program pursuing training under the supervision of the Veterinary Medicine faculty. Therefore, this proposed change in the admission requirements of the VMSC Graduate Program will not affect our relationship with any other graduate program on the UMD campus. At the same time, by allowing non-DVM applicants to come through the VMSC program, we enable our faculty to recruit excellent students through the VMSC Graduate Program.

Effect of Proposed Change on UMD Strategic Plan

The proposed change will align the VMSC Graduate Program at the Maryland Campus with the graduate program at the Blacksburg, VA campus and with all other graduate programs at our peer institutions. This change will very much align with the intent of the UMD Strategic Plan in the following areas:

- Attracting the very best non-DVM applicants to the UMD campus to pursue graduate studies in veterinary medicine
- Improving the morale of graduate students at the Maryland Campus of the VMRCVM
- Enhancing the research programs of the VMRCVM Maryland Campus faculty
- Attracting high quality faculty to the VMRCVM Maryland Campus
- Providing uniformity in our graduate education program, which will be important in efforts to secure external support for graduate training (e.g., NIH training grants)
- Using program resources effectively and efficiently
- Improving the national and international reputations of the VMSC graduate program
Resolution

Allowing admission of non-DVM applicants to the VMSC Graduate Program will enhance the breadth of the program’s recruitment sphere, and thereby, provide access to prospective students of the highest calibre, which will not only heighten the reputation of the program, but also those of the College of Agriculture and Natural Resources and the University of Maryland, College Park. This will enrich the diversity of our graduate program and will bring the UMD program in line with our partner at Virginia Tech, which will make us a true joint college with similar programs at both campuses and with all other 32 veterinary colleges in North America. This will be important for accreditation of the VMRCVM by the American Veterinary Medical Association (see attached letter from Dean Gerhardt Schurig, VMRCVM — Appendix 4).

The admission policy for non-DVM applicants will then be similar to that for DVM students. All other requirements of the VMSC program will remain the same, including all coursework requirements, learning outcomes assessment, etc.

Current (Old) VMSC Graduate Program Requirements for both Masters and PhD Programs

United States Applicants

- Applicant must have successfully completed a DVM or equivalent degree from an accredited academic institution
- Minimum grade point average of 3.0 on a 4.0 grade point system
- An indication of an aptitude for, and an interest in creative scholarly activity based upon letters of recommendation, previous experience and a statement of professional goals
- Graduate Record Examination (GRE) General Aptitude Test scores having a combined minimum score of 1100 with no individual score (verbal or quantitative) being below 400, and an analytical score of not less than 4

International Applicants

- All criteria for American applicants apply to international applicants
- Additionally, a minimum score of 100 will be required on the test of English as a Foreign Language (TOEFL) Internet-based test, meeting individual sectional scores of: Speaking – 22; Listening – 26; Reading – 26; and Writing - 26

New VMSC Graduate Program Requirements for both Masters and PhD Programs

United States Applicants

- Applicant must have successfully completed a baccalaureate degree, or a DVM or equivalent degree from an accredited academic institution
• Minimum course requirements are:
  Biological Sciences - 8 semester hours
  Chemistry, Physics and Mathematics - 16 semester hours

New VMSC Graduate Program Requirements for both Masters and PhD Programs

United States Applicants (cont’d)

• Minimum grade point average of 3.0 on a 4.0 grade point system
• An indication of an aptitude for, and an interest in creative scholarly activity based upon three letters of recommendation, previous experience and a statement of professional goals
• Graduate Record Examination (GRE) General Aptitude Test scores having a combined minimum score of 1100 with no individual score (verbal and quantitative) being below 400, and an analytical score of not less than 4

International Applicants

• All criteria for American applicants apply to international applicants
• Additionally, a minimum score of 100 will be required on the test of English as a Foreign Language (TOEFL) Internet-based test, meeting individual sectional scores of: Speaking - 22; Listening - 26; Reading - 26; and Writing - 26

Additional Proposal Submittal Documentation

<table>
<thead>
<tr>
<th>Identification of and rationale for the changes</th>
<th>Please see “Summary”/“Proposal” sections</th>
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<tbody>
<tr>
<td>A sample program under the proposed requirements</td>
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<tr>
<td>A list, table or chart showing the prerequisite structure of all required or optional courses appearing in the new requirements</td>
<td>N/A</td>
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<td>A list of any new courses........................</td>
<td>N/A</td>
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<tr>
<td>A list of courses being deleted from the program requirements</td>
<td>N/A</td>
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<tr>
<td>Letters from any department whose courses will be required or otherwise impacted</td>
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It should be specifically acknowledged that students enrolled in the program prior to the effective date of any curriculum change may complete their program under the old requirements if they wish N/A
**VMSC Courses Currently Offered:**

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<th>Course #</th>
<th>Course Title</th>
<th>Instructor</th>
<th>Credit Hours</th>
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<tr>
<td>VMSC 688A</td>
<td>Advances in Reverse Genetics of Animal Viruses</td>
<td>Samal</td>
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<td>VMSC 688C</td>
<td>Biology and Epidemiology of Zoonotic Viral Diseases (offered bi-annually in Fall semester)</td>
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<td>Special Problems in Veterinary Medical Sciences</td>
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**VMSC Courses To Be Offered in Fall 2009 Semester:**

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<td>VMSC 720*</td>
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* New courses for Fall 2009 Semester
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Courses Taken by VMSC Graduate Students from 2003-2009  
(exclusive of seminars and thesis research)

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<td>BIOL671</td>
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<td>Cell Biology Lectures</td>
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<td>CBMG688D</td>
<td>Cell Biology I</td>
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<tr>
<td>CBMG688F</td>
<td>Genetics I: Gene Expression</td>
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<tr>
<td>CBMG688J</td>
<td>Immunology and Host Defense</td>
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<td>CBMG688K</td>
<td>Molecular Virology</td>
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<td>CBMG688L</td>
<td>Microbial Pathogenesis</td>
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<td>CBMG688V</td>
<td>Virology Program</td>
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<tr>
<td>CBMG699X</td>
<td>Host-Pathogen Interactions</td>
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<td>MICB688U</td>
<td>Current Topics in Virology II</td>
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<td>MICB688V</td>
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<td>MICB750</td>
<td>Advanced Immunology</td>
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<td>MICB760</td>
<td>Advanced Virology</td>
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<tr>
<td>MOCB640</td>
<td>Protein Structure and Function</td>
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<tr>
<td>VMSC688A</td>
<td>Advances in Reverse Genetics of Animal Viruses</td>
<td>1-4</td>
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<tr>
<td>VMSC688C</td>
<td>Biology and Epidemiology of Zoonotic Viral Diseases</td>
<td>2</td>
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<tr>
<td>VMSC688I*</td>
<td>Medical Diagnostic Techniques</td>
<td>1</td>
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<tr>
<td>VMSC689*</td>
<td>Genomics and Proteomics of Infectious Disease</td>
<td>3</td>
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<tr>
<td>VMSC699</td>
<td>Special Problems in Veterinary Medical Sciences</td>
<td>1-4</td>
</tr>
<tr>
<td>VMSC760</td>
<td>Immunology of Infectious Diseases</td>
<td>3</td>
</tr>
</tbody>
</table>

*currently not offered
Veterinary Medical Sciences (VMSC)

Faculty

Director
Walters, Bettye,

Professor
Samal, Siba K.,

Professor Emeritus
Mallinson, Edward,

Associate Professor
Perez, Daniel , Tablante, Nathaniel L., Zhu, Xiaoping,

Assistant Professor
Bossis, Ioannis, Pal, Utpal, Zhang, Yanjin,

Extension Associate
Baya, Ana ,

Note: Some courses in this program may require the use of animals. Please see the statement on Animal Care and Use and the Policy Statement for Students in the Appendix.

Abstract

The Virginia-Maryland Regional College of Veterinary Medicine (VMRCVM) is the only truly regional veterinary college in the United States. The College was established as a joint venture between two major land grant universities, the University of Maryland and Virginia Polytechnic Institute and State University (Virginia Tech). The College has three major campuses: The Avrum Gudelsky Veterinary Center in College Park, Maryland, the Marion Scott Dupont Equine Medical Center in Leesburg, VA, and the main teaching hospital and research facility at Blacksburg, Virginia. The Maryland campus of the VMRCVM focuses on research, education and outreach, and our faculty provide a myriad of related
services throughout the Mid-Atlantic region. Veterinary teaching hospitals are located in Blacksburg and Leesburg, VA. The Veterinary Medical Sciences (VMSC) Graduate Program in the Maryland campus of the VMRCVM at the University of Maryland College Park (UMCP) is a collaboration in graduate education and research between UMCP and Virginia Tech, providing benefits in education and research from both universities. The VMSC Graduate Program includes faculty with a wide range of research interests: immunology, molecular biology, parasitology, pathology, poultry medicine and health, public health and food safety, public policy, and virology. The VMSC Graduate Program offers Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) degrees.

Admissions Information

Only students with a veterinary degree (DVM or equivalent) are eligible for admission to the VMSC Graduate Program; however, qualified non-veterinary students admitted through other graduate programs, namely Animal and Avian Sciences (ANSC), Molecular and Cell Biology (MOCB) and Food Sciences (FDSC), can work toward their graduate degrees in the research areas offered by the VMSC Graduate Program with all privileges, including selecting graduate faculty advisors within Veterinary Medicine.

A minimum Grade Point Average (GPA) of 3.0 on a 4.0 scale (B or better) and a minimum Graduate Record Examination (GRE) combined score of 1100 (verbal and quantitative) are required. The GRE score for either the verbal or quantitative section should not be less than 400. The analytical score should not be less than 4. International applicants are required to attain the minimum Test of English as a Foreign Language (TOEFL) score of 100 on the internet-based test (IBT) for unconditional admission. In addition, the following sectional scores must be met: Speaking: 22; Listening: 26; Reading: 26; and Writing: 26.

Application Deadlines

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<th>Fall</th>
<th>Spring</th>
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<tr>
<td>Domestic Applicants:</td>
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<tr>
<td>U.S. Citizens and Permanent Residents</td>
<td>Applications must be received by May 1</td>
<td>Applications must be received by October 1</td>
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</table>

International Applicants:

Applicants from Outside the U.S. or U.S. Citizens / Permanent Residents with Non-U.S. Credentials

IMPORTANT: International Applicants and U.S. Applicants with Non-U.S. Credentials must follow the domestic deadlines above if they are earlier than the deadlines listed below.

Applicants seeking admission under F (Student) or J (Exchange Visitor) visas

<table>
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<tr>
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<th>February 1</th>
<th>June 1</th>
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<tr>
<td>If Domestic Deadline is after Feb. 1</td>
<td>If Domestic Deadline is after April 1</td>
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</table>
Applicants seeking admission under A, E, G, H, I, and L visas and immigrants

May 1
If Domestic Deadline is after May 1

Jun. 1
If Domestic Deadline is after Jun. 1

October 1
If Domestic Deadline is after Oct. 1

U.S. Citizens and Permanent Residents with foreign credentials

May 15
If Domestic Deadline is after May 15

May 31
If Domestic Deadline is after May 31

October 31
If Domestic Deadline is after Oct. 31

**Application Requirements**

The following materials must be submitted online or by mail to:

University of Maryland College Park
Enrollment Services Operations
Application for Graduate Admission
Rm 0130 Mitchell Building
College Park, MD 20742

1. Application form and $60 non-refundable application fee
2. Official academic transcripts reflecting undergraduate and graduate work
3. TOEFL Scores (for international applicants whose native language is not English)
4. 3 Letters of recommendation
5. GRE scores (University of Maryland Institution Code is 5814)
6. Statement of goals, research interests and experiences

In addition to the above requirements, applicants must submit to the VMSC Graduate Program, a current resume or curriculum vitae.

**Degree Requirements**

**Master of Science (M.S.)**

During the first semester the student selects an advisor, and with the help of the advisor forms an Advisory Committee with the approval by the program’s Graduate Education Committee. By the end of the second semester with the advice of the Advisory Committee, the student files a proposed schedule of course work including at least one credit of seminar (VMSC 698). A minimum of 24 semester with hours of graduate courses and six hours of thesis research credit (VMSC 799) is required for the degree. No less than 12 credits should be from courses 600 level or higher; at least 12 credits must be earned in the major subject. Three credits of graduate biometrics or biochemistry and one seminar credit
(VMSC 698) are required. No more than two credits of Special Problems (VMSC 699) are acceptable as part of the 24 required course credits. Students must maintain an overall GPA of 3.0 or better in courses taken for graduate credit. The committee may require remedial courses if the student enters with inadequate prerequisites or deficiencies in undergraduate program. By the end of the second semester, a thesis research proposal must be approved and filed. The student must present the thesis in a public seminar and pass a final oral examination given by the Advisory Committee. Details on the Graduate School policy on the Master's Thesis Examination may be found in the Graduate School Catalog at http://www.gradschool.umd.edu/catalog/masters_degree_policies.htm

The thesis must be submitted to the Graduate School in electronic format after final approval of the document by the Thesis Examining Committee. See the University of Maryland Thesis and Dissertation Style Guide (http://www.gradschool.umd.edu/etd) for the details of this process.

Students with adequate undergraduate training usually complete the master's degree within two years.

**Doctor of Philosophy (Ph.D.)**

Only applicants with an M.S. degree (and a D.V.M. or equivalent veterinary degree) will be admitted to the Ph.D. program. In exceptional cases, admission to the Ph.D. program without an M.S. degree may be considered but these candidates must meet a minimum of 24 hours of course work. Ph.D. candidates who have previously completed the M.S. degree must meet the minimum course requirements of 12 credits, and a minimum of twelve dissertation research credits (VMSC 899). No more than two credits of Special Problems (VMSC 699) are acceptable as part of the 12 required course credits. Two additional seminar credits (VMSC 698) are required.

Students are required to register for one seminar credit (VMSC 698) each academic year. Two seminar credits will be counted toward degree requirements. All students are expected to attend seminars regularly.

Students are required to take a written and oral comprehensive examination and to submit and defend their Ph.D. dissertation in partial fulfillment of the doctoral degree (see below).

During the first semester, the student selects an advisor and with the help of the advisor forms an Advisory Committee. The Advisory Committee and the student must meet by the end of the second semester to approve the student's plan of study. By the end of the second semester the student will submit to the Advisory Committee a dissertation research proposal. An oral and written comprehensive examination is required for advancement to candidacy. Prior to the final dissertation, an oral examination is required for advancement to candidacy. A student must be admitted to candidacy for the doctorate within five years after admission to the doctoral program and at least six months before the date on which the degree will be conferred. It is the responsibility of the student to submit an application for admission to candidacy when all the requirements for candidacy have been fulfilled. Applications for admission to candidacy are made in duplicate by the student and submitted to the graduate program for further action and transmission to the Graduate School. Application forms may be obtained at the Graduate School, Room 2123, Lee Building, or on the web. Paperwork must be received by the Graduate School prior to the 25th of the month in order for the advancement to become effective the first day of the following month. Doctoral candidates are automatically registered for six (6) credits of Doctoral Dissertation Research (899), for which they pay the flat candidacy tuition.

Prior to the final dissertation oral examination, the candidate must present a public seminar. Details on the Graduate School policy on the
Doctoral Dissertation and Examination may be found in the Graduate School Catalog at:
http://www.gradschool.umd.edu/catalog/doctoral_degree_policies.htm

Dissertations are to be submitted to the Graduate School in electronic format after final approval of the dissertation by the Dissertation Examining Committee. See the University of Maryland Electronic Thesis and Dissertation (ETD) website at http://dissertations.umi.com/umd or the University of Maryland Thesis and Dissertation Style Guide (http://www.gradschool.umd.edu/styleguide) for the details of this process.

Facilities and Special Resources

The Avrum Gudelsky Veterinary Center, the University of Maryland home of the VMRCVM, lies in the heart of Maryland's thriving biotechnology community, and is near Maryland's major university research campuses and government laboratories, including the USDA Beltsville Agriculture Research Center, the National Institutes of Health, and Walter Reed Armed Forces Institute of Pathology. The Center contains 32,000 square feet of research and support laboratories, including animal care facilities. The 10,000 square-foot research laboratories are fully equipped with state-of-the-art facilities for molecular biology research, cell culture facilities, a confocal microscope, and a sophisticated electron microscope suite. Approximately 18,000 square feet of space comprise a Biological Safety Level-3 facility and facilities for laboratory animals and poultry. The poultry unit has 15 rooms for housing poultry, each equipped with 20 poultry isolators to contain any infectious pathogens and maintain a disease-free environment. The animal facility has a fully equipped necropsy room designed for postmortem analysis.

The Avrum Gudelsky Veterinary Center also houses the College Park diagnostic laboratory of the Maryland Department of Agriculture, the drug-testing laboratory of the Maryland Horse Racing Commission, and the Poultry Research and Development Unit of Synbiotics Corporation. This co-location facilitates active collaboration in both applied and basic research on diseases of animals.

The Center for Agricultural Biotechnology (CAB) of the University of Maryland comprises state-of-the-art molecular biology and engineering research facilities. CAB's DNA sequencing facility and DNA microassay technology service are available to the campus research community. Extensive information for DNA sequence analysis, image analysis and production of publication-quality graphics are accessible through the CAB area networks. Several of the VMSC program's faculty have joint appointments and research collaborations with CAB.

The Laboratory for Biological Ultrastructure in the Department of Biology is equipped with a transmission and scanning electron microscope, a confocal light microscope, ultramicrotomes, and equipment for freeze-fracture studies. The Department of Cell Biology and Molecular Genetics has a Fluorescence-Activated Cell Sorter for supporting cell biology research.

The campus has Central Animal Resource Facilities (CARF) for maintaining laboratory animals to facilitate animal research.

Extensive library facilities are available on campus. In addition, the College Park campus is close to the National Agricultural Library (NAL) and the National Library of Medicine (NLM). The Library of Congress and the National Archives, along with several other libraries of biomedical research and academic institutes, are located within a short driving distance.

Computer facilities at the University of Maryland are outstanding. Veterinary Medicine provides computer access to all faculty and graduate students. Students are provided with e-mail accounts and free Internet access. The campus maintains both Unix and mainframe systems, and
access to supercomputers for specific research projects. Software for graphics, modeling, statistics, and the analysis of molecular data is readily available.

The College Park campus is also ideally situated near a number of federal agencies involved in veterinary medical sciences. Collaborative initiatives are underway with the U.S. Food and Drug Administration's Centers for Veterinary Medicine (CVM) and Food Safety and Applied Nutrition (CFSAN); U.S. Department of Agriculture's Animal and Plant Health Inspection Services (APHIS), Food Safety and Inspection Service (FSIS), Agricultural Research Service (ARS), and Beltsville Agriculture Research Service (BARC); National Institutes of Health (NIH); Walter Reed Armed Forces Institute of Pathology (AFIP); World Bank; and Pan American Health Organization (PAHO). Scientists from some of these agencies have adjunct appointments with the College of Veterinary Medicine and participate on students' graduate committees.

Financial Assistance

A number of graduate assistantships are available and awarded to candidates with strong academic records.

Teaching Assistantships, Research Assistantships, Scholarships, and Fellowships are available on a competitive basis. Research Assistantships (RAs) are 12-month appointments and Teaching Assistantships (TAs) are 10-month appointments. Benefits for each assistantship include stipends, ten credits of tuition remission per semester, and health benefits. Generally, student assistantships are offered for two years for an M.S. degree and four years for a Ph.D. degree.

Sources of funding include the VMRCVM; Maryland Agricultural Experiment Station; Maryland Cooperative Extension; College of Agriculture and Natural Resources; Graduate School open-nomination and block grant fellowships (for recruitment of new students only); University diversity fellowships; endowed fellowships; and funds from faculty research contracts and grants. Inquiry about the stipends can be made to the VMSC Graduate Program.

Contact Information

Contact the members of the Graduate studies committee and the VMSC graduate program Website
http://www.gradschool.umd.edu/catalog/programs/VMSC.html

Dr. Nathaniel Tablante,
Associate Professor and Director, VMSC Graduate Program
Avrum Gudelsky Veterinary Center,
8075 Greenmead Drive,
College Park
MD 20742
Telephone: (301) 314-6810
Fax: (301) 314-6855
nlt@umd.edu
November 20, 2008

Dear Dr. Wei:

As you know, Dr. Siba Samal, Associate Dean for the Maryland Campus of the Virginia-Maryland Regional College of Veterinary Medicine (VMRCVM), has submitted a proposal to include non-DVM graduate students in the Veterinary Medical Sciences (VMSC) Graduate Program at the University of Maryland.

The original Agreement between Virginia Polytechnic Institute and State University (VPI&SU) and the University of Maryland at College Park (UMCP) states that, in addition to the DVM program, both universities agree to develop collaborative and integrated activities in graduate education (i) MS and PhD, and (ii) clinical residency programs. Since collaboration has increased between the UMCP and VPI&SU campuses of the VMRCVM in both research and graduate studies, it is critical that we have similar, parallel programs in order to achieve further growth. The graduate program at the Blacksburg campus of the VMRCVM admits both DVM and non-DVM students, as do all other twenty-seven veterinary colleges in the United States. This enriches and diversifies the graduate programs. The VMSC graduate program at the Maryland Campus of the VMRCVM is the only one that does not allow admission of non-DVM students. This policy has had, and will continue to have, a definite adverse effect on the Maryland Campus's VMSC program's ability to recruit outstanding faculty and graduate students, and also negatively impacts the VMRCVM's accreditation eligibility.

By this letter, I support the proposal of Dr. Samal that the VMSC Graduate Program at the Maryland Campus of the VMRCVM be allowed to admit non-DVM students, thereby greatly improving the Program’s opportunities to recruit and retain outstanding faculty and graduate students, and bringing it in line with the Graduate Program of the VMRCVM at the VPI&SU Campus and all other schools of veterinary medicine across the nation.

It is my sincere hope that you and the other UMCP campus administrators will give this matter the utmost consideration and bring it to a positive conclusion.

Sincerely,

Gerhardt Schurig, PhD
Dean
Fikrig at Yale that he started working on Lyme disease and made a successful contribution to understanding the pathogenesis of *Borrelia burgdorferi*. As a new faculty he has not yet trained predoctoral and postdoctoral fellows but he states that during his postdoctoral training at Yale he supervised the work of several graduate students. Dr. Pal will also be assisted in mentoring Mr. Coleman by Dr. Siba Kamal, Professor and Chair and Associate Dean at VA-MD Regional College of Veterinary Medicine at University of Maryland. Dr. Samal is an eminent virologist with a productive research laboratory. Both the sponsor and co-sponsor are well funded.

**Overall Recommendation:** Strengths of the proposal include a well-written and thought out research proposal, excellent mentor and co-sponsor, and institutional environment. A strong point of the application is the mentor and his research interests, which perfectly complement those of the applicant.

**Protection of Human Subjects from Research Risks:** Not applicable.

**Inclusion of Women, Minorities and Children in Research:** Not applicable.

**Vertebrate Animals:** Acceptable.

**Biohazards:** Not addressed.

**Training in the Responsible Conduct of Research:** The candidate will take a course on responsible conduct in research entitled "Ethics in Science and Engineering" at University of Maryland.

**Budget:** Request for 48 months of funding is appropriate.

**CRITIQUE 2:**

**Applicant's Preparation for Graduate Study:** Adam Coleman attended Anne Arundel Community College and the University of Maryland where he received a BS in Biochemistry. His undergraduate academic performance was mixed with several failing and D grades in Calculus II, but to his credit his most recent academic performance has been much improved and he has completed the first year of graduate coursework in good standing. His GRE scores are excellent: 590V, 760Q, 5 writing. Letters of recommendation are uniformly laudatory and speak of his passion, brilliance and great knowledge base in microbiology. He has published one middle-authored paper on *E. coli*.

It is not entirely clear which Department the applicant is enrolled in, as in one part of the application it states that he is enrolled in the Department of Animal and Avian Sciences, while in another the facilities and graduate program of the Department of Veterinary Medicine are described at the University of Maryland. Details of the training program are thus a bit confused at least to this reviewer, and some details are missing such as the required coursework and its duration, the presence and role of the thesis committee, and qualifying exams.

**Proposed Research:** Mr. Coleman is focusing his efforts on understanding spirochete proteins on the *Borrelia* outer membrane that are produced or induced during infection. The Specific Aims include: (1) measuring expression in different tissues and at different times after infection of 5 highly transcribed genes predicted to be outer membrane proteins; (2) deleting the gene for the most promising of the 5 candidate genes from the first aim and assessing the ability of the mutant to disseminate, persist and cause arthritis; and (3) production of antibodies against the candidate gene and testing their ability to interfere with gene function. Preliminary data is provided that compares expression levels of putative *B. burgdorferi* outer membrane proteins in murine tibiotarsal joints; 5 genes had detectable levels of mRNA in joint, and in data not shown none of these genes were expressed when the bacteria was in ticks. While more detail on the rationale for why these subset of genes were chosen for analysis (for