



MARYLAND DEPARTMENT OF NATURAL RESOURCES
WILDLIFE AND HERITAGE SERVICE
PERMIT/LICENSE

Effective: 12-10-13

Scientific Collecting

Expires: 12-31-14

PERMIT NUMBER: 55025

Johns Hopkins University
ATTN: Shreesh Mysore
3400 N. Charles St, 224 Ames Hall
BALTIMORE, MD 21218

County of Residence
BALTIMORE CITY

Location:

Authority Statute(s): ACM 10-909
Regulation(s): COMAR 08.03.09.06

General Conditions

Conditions in state law and regulations cited above, are hereby made a part of this permit/license. All activities authorized herein must be carried out in accord with and for the purposes described in the application submitted. Continued validity, or renewal, of this permit is subject to complete and timely compliance with all applicable conditions, including the filing of all required information and reports.

The validity of this permit is also conditioned upon strict observance of all applicable federal, local or other state laws.

Certain activities allowed under this permit may also require a U.S. Fish and Wildlife Service permit.

This permit does not authorize the collection, salvage, possession or transportation of any species classified as in need of conservation, threatened, or endangered at the state or federal level. If any such species are encountered or inadvertently collected during activities authorized by this permit, the Permits Coordinator must be contacted within 24 hours.

Permittee is not authorized by this permit to access private property or publically held property without express permission from the appropriate authority.

A report of the year's activity must be provided before the permit may be renewed.

The Department may revoke this permit for a violation of the terms and conditions of this permit.

Special Conditions

Permittee and subpermittee are authorized to possess 15 Barn Owls *Tyto alba* for scientific purposes. Owls will be obtained from the research facility of Dr. Eric Knudsen at the Stanford University Department of Neurobiology Research Facility. The Barn Owls will be housed in Maryland at the Department of Psychological and Brain Sciences at Johns Hopkins University. Housing, care, and euthanization protocols should follow Guidelines to the Use of Wild Birds in Research (2010) and other established protocols. At the end of the study, birds may be euthanized, anatomical data may be collected, and specimens may be retained.

Subpermittee: Phyllis Knudsen

See email for conditions - JPS

APPLICATION FOR SCIENTIFIC COLLECTION PERMIT

INSTRUCTIONS:

- 1. Fee \$10.00. Make check or money order payable to Department of Natural Resources.
- 2. Print or type all information.
- 3. Please be sure to complete both pages of this application.
- 4. Return completed application to Permits Coordinator, Wildlife and Heritage Service, Tawes State Office Building, Annapolis MD 21401 and contact this office at 410-260-8540, or 1-877-620- 8DNR. Ext. 8540, if you have any questions.

NAME Shreesh P. Mysore, PhD

SOCIAL SECURITY # OR TAX I.D. # 210-76-3323

PAID NOV 08 2013

Note: A permit may not be issued unless the social security number or tax identification number is provided.

STREET 3400 N. Charles Street, 224 Ames Hall, Johns Hopkins University

CITY Baltimore STATE MD ZIP 21218

NAME OF ORGANIZATION Johns Hopkins University

ADDRESS OF ORGANIZATION 3400 N. Charles Street, 224 Ames Hall

CITY Baltimore STATE MD ZIP 21218

PHONE NUMBER: 650.839.3146

EMAIL ADDRESS: shreesh.mysore@jhu.edu

PROJECT PROPOSAL (Reason for study, objective, justification, etc.) Use additional sheet if necessary.

Please see attached sheet.

FINAL DISPOSITION OF SPECIMENS At the end of our experiments, the owls will be humanely euthanized per regulation and their brains will be used to gather anatomical data.

SPECIFIC AREAS WHERE COLLECTION WILL TAKE PLACE Stanford, CA

SPECIFIC TIME PERIOD NEEDED FOR COLLECTION: Fro m Nov 25, 2013 To Dec 10, 2013

LIST OF TYPES, NUMBERS, AGE CLASSES AND SEX OF SPECIES TO BE COLLECTED.
Use additional sheet if necessary.

Please see attached sheet.

Species (Common and Scientific Names)	Number	Age	Sex
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METHODS OF COLLECTION:

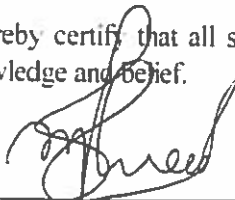
Owls are currently being housed in ~~the~~ ^{the} Stanford Department of Neurobiology's Research Facility. They will be collected from there.

FEDERAL PERMIT NUMBER (If applicable). _____
Copy of Federal Permit should be attached to application.

LIST OF COLLECTORS IN ADDITION TO APPLICANT (if any).

Name	Address	Title
Phyllis Knudsen	299 W. Campus Drive, D259	Lab Manager

I hereby certify that all statements made on this application are true and correct to the best of my knowledge and belief.



Signature of Applicant

11/1/2013

Date

Transferring barn owls (bred for research) from Stanford to Johns Hopkins

Where we are getting the owls from? Barn owls will be obtained from the research facility of Prof. Eric Knudsen in the Department of Neurobiology at Stanford University (299 W. Campus Drive, Stanford CA 94305).

How many owls? Between 10 and 15 owls of both sexes (depending on availability) will be obtained. The owls will be aged 6 months to 10 years old. Species: *Tyto alba*.

Where are they being transported to? They will be transported by air (via World Courier, Inc) to my research lab in the Department of Psychological and Brain Sciences at Johns Hopkins University (3400 N. Charles St, 16 Ames Hall, Baltimore MD, 21218).

Why are they being brought to Baltimore? These owls are being obtained for the purposes of neuroscience and neuroethological research that will be performed in my lab at Johns Hopkins University. I have received training for this research in owls for the past seven years in the laboratory of Prof. Eric Knudsen at Stanford University; my CV is attached.

Research objective: The primary purpose of this research is to investigate how specific circuits in the brain mediate integration and competition among numerous pieces of sensory and cognitive information to which animals are constantly exposed. A parallel purpose is to generate starting hypothesis regarding the mechanisms of attention, hypotheses that can then be explored and tested in behaving mammals

Research narrative: Neural mechanisms of multi sensory competition and selection

Animals inhabit complex environments: at any instant, they are exposed to numerous pieces of sensory information from many modalities (vision, audition, olfaction etc) as well as numerous cognitive inputs (memories, thoughts, etc). Constantly, the brain combines and even confounds some pieces of information, while simultaneously separating out other pieces of information into discrete, competing percepts. Ultimately, only a small portion of all this information "wins out" and results in driving the animal's perceptual experience. The neural mechanisms mediating these critical brain processes, however, remain largely unknown. Research in my lab will reveal fundamental building blocks of multisensory information processing that underlie much of perception and behavior across all vertebrates. Additionally, this work in owls will provide essential foundational insights that will serve as starting points for clinically relevant studies of attention in mammals.

Justification: Why owls? We study birds because the midbrain circuit architecture that participates in multisensory processing and in attention is well characterized and highly organized: specific midbrain nuclei have been implicated in multisensory integration, in stimulus-driven competition, and in the suppression of competing stimuli. Although primates and rodents have equivalent midbrain cell groups, the spatial segregation of the groups in birds permits the activity in these specialized nuclei to be recorded from reliably and independently manipulated. The reasons for studying barn owls are that 1) they are multisensory specialists, with extremely well-developed auditory and, interestingly, visual, systems that work cooperatively to process sensory information 2) they have a highly developed capacity for spatial attention, 3) a forebrain structure, one that is key for processing cognitive information and driving voluntary behavior, and that is known to modulate multisensory processing and heavily influence the locus of attention, has been identified and characterized, and 4) most of the previous work on the neurophysiology of multisensory processing and on attention in birds has been done in owls. For these reasons, owls are an excellent species in which to investigate the neural mechanisms of multisensory information processing.

Shreesh P. Mysore, PhD

Department of Psychological and Brain Sciences, Johns Hopkins University, Baltimore, MD

Positions

-
- 2013.09 on Assistant Professor, Psychological and Brain Sciences, Johns Hopkins University, Baltimore, MD
2013.09-12 Visiting Scholar, Neurobiology, Stanford University, Palo Alto, CA
2011-2013 Basic Life Science Research Associate, Neurobiology, Stanford University (Supervisor: Dr. Eric Knudsen).
2006-2011 Postdoctoral Scholar, Neurobiology, Stanford University, Palo Alto, CA (Supervisor: Dr. Eric Knudsen).

Education

-
- 2007 Ph.D., Control & Dynamical Systems (Minor: Neurobiology), California Institute of Technology.
(Supervisors: Dr. Erin M. Schuman and Dr. Steven R. Quartz)
2000 M.A., Mathematics, Pennsylvania State University, State College.
(Supervisor: Dr. Ya Pesin)
1999 M.S., Industrial Engineering, Pennsylvania State University, State College.
(Supervisors: Dr. Soundar R.T. Kumara and Dr. C.R. Rao)
1997 B.Tech., Mechanical Engineering, Indian Institute of Technology, Madras.
(Supervisor: Dr. V. Radhakrishnan)

Advanced Coursework

-
- 2011 Short course in optogenetics, Stanford University.
2003 Mathematical Modeling in Neuroscience Workshop, Santa Fe Institute.
2003 NEURON Simulation Course, UCSD.
2003 FSL/Freesurfer course for fMRI data analysis, Los Angeles.

Honors & Awards

-
- 2012 Finalist, Sammy Kuo award for postdoctoral research excellence, Stanford Neuroscience Institute (SINTN).
2009 1st place poster, Stanford Institute for Neuro-Innovation & Translational Neurosciences (SINTN) retreat.
2008, 2009 Dean's Postdoctoral Fellowship, Stanford University School of Medicine.
2008 Postdoctoral fellow travel award, Society for Neuroscience (administered by C-WIN).
2006 Tenure-track faculty position, School of Industrial Engineering, Purdue University (declined).
2006 Science and Technology Council Postdoctoral Fellowship, Princeton University (declined).
2005 Finalist, Harvard Society of Fellows Junior Fellowship (2006-2009).
2005 Travel grant for Intl Joint Conference on Neural Networks, IEEE Computational Intelligence Soc.
2005 1st place poster (shared), 12th Joint Symposium on Neural Computation.
2003 Travel award, Mathematical Modeling Workshop, Santa Fe Institute.
2003 Travel award, Workshop on Theoretical Neuroscience, Cold Spring Harbor Lab.
2000-2001 Engineering and Applied Sciences Fellowship, California Institute of Technology.
1999 Award for research contribution during internship, GE Transportation Systems.
1997 Scholarships for study abroad: JN Tata Endowment, and KC Mahindra Education Trust.

Invited Talks

-
- 2014 International Congress on Neuroethology (Sapporo, Japan).
Janelia Farm Research Campus (Ashburn, Virginia), Conference: How to read a map --Understanding structure-function relationships in the brain.
2013 California Institute of Technology (Pasadena), Division of Biology.
Indian Institute of Science (Bengaluru, India), Center for Neuroscience.
Computational and Systems Neuroscience (CoSyNe) Workshop (Snowbird, Utah).
University of Michigan (Ann Arbor), Department of Psychology.
2012 Johns Hopkins University (Baltimore, Maryland), Department of Psychological and Brain Sciences.
Cornell University (Ithaca, New York), Department of Psychology.
2011 Friedrich Miescher Institute (Basel, Switzerland), Symposium on Neurocircuits and Behavior.
Max Planck Institute of Brain Research (Frankfurt, Germany).
Bangalore Science Forum (Bengaluru, India).
Institution of Engineers India (Bengaluru, India).
Multimodal and Sensorimotor Bionics Workshop (Garching, Germany)

Publications

- [18] Goddard CA, Mysore SP, Huguenard JR, Knudsen EI (under submission). Mutual inhibition of lateral inhibition within a stimulus selection network in the avian midbrain.
- [17] Mysore SP, Knudsen EI (submitted). Endogenous biasing and enhancement of selection signals in a spatial attention network.
- [16] Mysore SP, Knudsen EI (2013). A shared inhibitory circuit for both exogenous and endogenous control of stimulus selection. *Nat Neurosci* 6(4):473-8. [Previewed in *Nat. Rev. Neurosci*]
- [15] Mysore SP, Knudsen EI (2012). Reciprocal inhibition of inhibition: A circuit motif for flexible categorization in stimulus selection. *Neuron* 73: 193-205. [Previewed in *Neuron*] [Faculty of 1000 pick]
- [14] Mysore SP, Knudsen EI (2011). The role of a midbrain network in competitive stimulus selection. *Curr Opin Neurobiol* 21(4): 653-60.
- [13] Mysore SP, Knudsen EI (2011). Flexible categorization of relative stimulus strength by the optic tectum. *J Neurosci* 31:7745-52.
- [12] Asadollahi A, Mysore SP, Knudsen EI (2011) Rules of competitive stimulus selection in a cholinergic isthmus nucleus of the owl midbrain. *J Neurosci* 31: 6088-6097.
- [11] Mysore SP, Asadollahi A, Knudsen EI (2011) Signaling of the strongest stimulus in the owl optic tectum. *J Neurosci* 31: 5186-5196 [Cover article][Covered in *Nature News*].
- [10] Asadollahi A, Mysore SP, Knudsen EI (2010) Stimulus-driven competition in a cholinergic midbrain nucleus. *Nat Neurosci* 13: 889-895.
- [9] Mysore SP*, Asadollahi A*, Knudsen EI (2010). Global inhibition and stimulus competition in the owl optic tectum. *J Neurosci* 30: 1727-1738. (* co-authorship)
- [8] Mysore SP, Tai C-Y, Schuman EM (2008). N-cadherin, spine dynamics, and synaptic function, *Frontiers in Neuroscience*, 2: 168-175.
- [7] Mysore SP, Tai C-Y, Schuman EM (2007). Effects of N-cadherin disruption on spine morphological dynamics, *Frontiers in Cellular Neuroscience*, 1: 1-14.
- [6] Tai C-Y, Mysore SP, Chiu C, Schuman EM (2007). Activity-regulated N-cadherin endocytosis, *Neuron*, 54(5):771-785.
- [5] Shultz TR, Mysore SP, Quartz SR (2007). Why let networks grow?, in *Constructing Cognition: How the Brain Develops Representations Vol II. Perspectives and Prospects*, 65-98, Oxford University Press.
- [4] Mysore SP, Quartz SR (2005). Modeling structural plasticity in the barn owl auditory localization system with a spike-time dependent Hebbian learning rule, *Proc. Intl. Joint Conf. on Neural Networks, Montreal*, 5: 2766-2771.
- [3] Goebel K, Mysore SP (2002). Factoring in a-priori classifier performance into decision fusion, *Proc. SPIE, Sensor Fusion: Architectures, Algorithms, and Applications VI*, 10-21.
- [2] Goebel K, Mysore SP (2001). Taking advantage of misclassifications to boost classification rate in decision fusion, *Proc. SPIE, Sensor Fusion: Architectures, Algorithms, and Applications V*, 11-20.
- [1] Kumara SRT, Suh J, Mysore SP (1999). Machinery fault diagnosis and prognosis: application of advanced signal processing techniques, *CIRP Annals*, Vol. 48/1, 317-320.

Software

- Mysore SP, Schuman EM (2005). Immunofluorescence analysis of 3D images (IMFLAN3D), <http://www.stanford.edu/~shreesh/IMFLAN3D/>.
- Mysore SP, Schuman EM (2007). SpineZap (Time-lapse analysis of dendritic spine motility), <http://www.stanford.edu/~shreesh/>.

Teaching & Related

2010. Attendee, "Science and Engineering Course Design", Center for Teaching and Learning, Stanford

- Winter University.
 • Designed the course “Quantitative Methods for Neuroscientists” aimed at 1st year graduate students. Studied learning-centered approach to teaching, and course design driven by deep learning objectives.
2006. Lecturer, “Cellular Dynamics: Advanced Topics in Cell Biology of Neurons & Nonneuronal Cells” offered by Dr. E. Schuman and Dr. K. Zinn, Dept. of Biology, Caltech.
 Spring
Level: Graduate students. *Topic:* Prepared material and lectured on “Actin cytoskeleton and motility”.
2002. Teaching Assistant, “Principles of Feedback and Control” offered by Dr. Richard Murray, Control and
 Fall Dynamical Systems, Caltech.
Level: Juniors, seniors and 1st year graduate students. *Duties:* Office hours, grading, and answering “mud-card” questions.
2002. Teaching Assistant, “The Neural Basis of Consciousness” offered by Dr. Christof Koch, Computation and
 Spring Neural Systems, Caltech.
Level: Seniors and 1st year graduate students. *Duties:* Office hours, grading, design and maintenance of class website.

Professional Activities

- 2011 – Invited Reviewer, *Journal of Neurophysiology*.
 2007 – Review Editor, *Frontiers in Neural Circuits*.
 2004 – Ad-hoc reviewer for various journals (*J. Neurosci.*, *Neuron*, etc)

Abstracts, Poster and Conference Presentations

- 2013 Mysore SP and Knudsen EI, Endogenous influences shape midbrain stimulus selection signals, *Society for Neuroscience Annual Meeting, San Diego*.
- 2012 Mysore SP and Knudsen EI, Shared neural mechanisms for bottom-up and top-down control of spatial attention, *Society for Neuroscience Annual Meeting, New Orleans*.
- 2011 Mysore SP and Knudsen EI, Categorical representation of stimulus priority in the owl optic tectum, *Society for Neuroscience Annual Meeting, Washington, DC*.
- 2010 Mysore SP and Knudsen EI, Top-down modulation of bottom-up stimulus competition in the owl optic tectum, *Society for Neuroscience Annual Meeting, San Diego*.
- 2010 Devarajan S, Mysore SP and Knudsen EI, Encoding of salient stimuli by gamma oscillations in the barn owl optic tectum, *Society for Neuroscience Annual Meeting, San Diego*.
- 2009 Mysore SP, Asadollahi A and Knudsen EI, Competitive selection of salient stimuli in the owl optic tectum, *Society for Neuroscience Annual Meeting, Chicago*.
- 2008 Mysore SP and Knudsen EI, Stimulus competition in the GABA-ergic isthmic nucleus (Imc) in the barn owl midbrain, *Society for Neuroscience Annual Meeting, Washington, DC*.
- 2007 Mysore SP and Knudsen EI, Functional properties of the nucleus isthmi pars magnocellularis (Imc) in the barn owl midbrain, *Society for Neuroscience Annual Meeting, San Diego*.
- 2006 Mysore SP, Sutton MA and Schuman EM, Regulation of spine morphological dynamics by miniature synaptic events, *Society for Neuroscience Annual Meeting, Atlanta*.
- 2005 Mysore SP and Quartz SR, Modeling structural plasticity in the barn owl auditory localization system with a spike time-dependent Hebbian learning rule, *Intl Joint Conference on Neural Networks, Montreal*.
- 2005 Mysore SP, Tai C-Y and Schuman EM, Regulation of spine dynamics and synaptic structure by N-cadherin, *Society for Neuroscience Annual Meeting, Washington DC*.
- 2005 Mysore SP and Quartz SR, Plasticity in the barn owl auditory localization system: A spiking neuronal model, *12th Joint Symposium on Neural Computation, UCLA, Los Angeles*.
- 2004 Mysore SP, Sutton MA and Schuman EM, Large scale analysis dendritic spine motility, *Society for Neuroscience Annual Meeting, San Diego*.
- 2004 Mysore SP and Quartz SR, Structural plasticity and auditory localization in barn owls - A firing rate model, *Computational and Systems Neuroscience (CoSyNe), Cold Spring Harbor Laboratory*.



Tina Jarvis -DNR- <tina.jarvis@maryland.gov>

RE: SCO 55025

1 message

Shreesh Mysore <shreesh.mysore@jhu.edu>

Thu, Dec 13, 2018 at 6:13 PM

To: Tina Jarvis -DNR- <tina.jarvis@maryland.gov>

Cc: Bob Adams <rjadams@jhmi.edu>, Theresa Colecchia <tcolecc1@jhu.edu>

Hi Tina,

Please find attached my filled and signed renewal form, as well as the document of insurance (re item 17). I plan to mail them to you along with the check tomorrow, but I thought I would send copies by email as well.

Thanks much,

Best

-Shreesh

From: Tina Jarvis -DNR- <tina.jarvis@maryland.gov>**Sent:** Thursday, December 13, 2018 11:10 AM**To:** Shreesh Mysore <shreesh.mysore@jhu.edu>**Cc:** Bob Adams <rjadams@jhmi.edu>**Subject:** Re: SCO 55025

Hi. We do not have an annual report form. The annual report is a summary of the results of your previous scientific collection permit during that year.

	Christina Jarvis Permits Coordinator Department of Natural Resources 580 Taylor Ave, Bldg E-1 Annapolis, MD 21401 410-260-8538 (office) tina.jarvis@maryland.gov
The logo for the Department of Natural Resources of Maryland, consisting of a stylized 'U' shape with three vertical bars inside, and the text "dnr.maryland.gov" below it.	

[Click here to complete a three question customer experience survey.](#)

On Wed, Dec 12, 2018 at 9:51 PM Shreesh Mysore <shreesh.mysore@jhu.edu> wrote:

Hi Tina,



Could you please point me to the link where I might download the form/ template for the Annual Report?

Thank you,

-Shreesh

From: Tina Jarvis -DNR- <tina.jarvis@maryland.gov>
Sent: Wednesday, December 12, 2018 6:31 PM
To: Shreesh Mysore
Subject: SCO 55025

Hi. Attached please find a copy of your scientific collection permit renewal form. Please remember to submit the annual report from your previous scientific collection permit, (which is a summery of the results), along with your renewal. Please let me know if you have any questions or concerns.

  dnr.maryland.gov	Christina Jarvis Permits Coordinator Department of Natural Resources 580 Taylor Ave, Bldg E-1 Annapolis, MD 21401 410-260-8538 (office) tina.jarvis@maryland.gov
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[Click here to complete a three question customer experience survey.](#)

2 attachments

 **mysore2019_renewal_signed.pdf**
78K

 **mysore_JohnsHopkins_Insurance.pdf**
42K



WILDLIFE AND HERITAGE SERVICE

PERMIT/LICENSE

Effective: 01/01/2019	SCIENTIFIC COLLECTING	Expires: 12/31/2019
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PERMIT #: 55025

Johns Hopkins University
 ATTN: Dr. Shreesh Mysore
 3400 N. Charles St. 224 Ames Hall
 BALTIMORE, MD 21218

County of Residence:
 Baltimore City

Location:

Authority Statute(s): ACM 10-909
 Regulation(s): COMAR 08.03.09.06

GENERAL CONDITIONS

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The Department may revoke this permit for a violation of the terms and conditions of this permit.

SPECIAL CONDITIONS

Permittee and subpermittee are authorized to possess 27 Barn Owls Tyto alba for scientific purposes. Owls will be obtained from the research facility of Dr. Eric Knudsen at the Stanford University Department of Neurobiology Research Facility. The Barn Owls will be housed in Maryland at the Department of Psychological and Brain Sciences at Johns Hopkins University. Housing, care, and euthanization protocols should follow Guidelines to the Use of Wild Birds in Research (2010) and other established protocols. At the end of the study, birds may be euthanized, anatomical data may be collected, and specimens may be retained.

Subpermittee: Phyllis Knudsen

ISSUED BY: Christina Jarvis	PERMITS COORDINATOR	ISSUED: 02/19/2019
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MARYLAND WILDLIFE AND HERITAGE SERVICE
 DEPARTMENT OF NATURAL RESOURCES
APPLICATION FOR WILDLIFE PERMIT/LICENSE RENEWAL

THIS IS AN APPLICATION FOR THE REISSUANCE OF A WILDLIFE PERMIT/LICENSE. REVIEW ALL THE INFORMATION IN PARTS 1-10, MAKING ANY NEEDED CORRECTIONS IN THE SPACE TO THE RIGHT. COMPLETE PART 17 AND 18 THEN RETURN WITH FEE SHOWN IN PART 15 TO PERMITS COORDINATOR, WILDLIFE AND HERITAGE SERVICE, 580 TAYLOR AVE, E-1, ANNAPOLIS MD 21401 MAKE CHECKS PAYABLE TO MARYLAND DEPARTMENT OF NATURAL RESOURCES.

CURRENT INFORMATION	CORRECTED/NEW INFORMATION
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Johns Hopkins University
 ATTN: Dr. Shreesh Mysore
 3400 N. Charles St, 224 Ames Hall
 BALTIMORE, MD 21218
 Baltimore City

- 1. Company:
- 2. Name:
- 3. Street:
- 4. City, State, Zip:
- 5. County:
- 6. EMail:
- 7. Cell Phone #:

- 8. Phone Home: 650.839.3146
- 9. Phone Work: 410.516.6706
- 10. Name and Title of Principal Officer (If Company):
 Dr. Shreesh Mysore

- 11. Type: **SCIENTIFIC COLLECTING**
- 12. Current Permit #: **55025**
- 13. Location where authorized activity may be conducted (If Applicable):
 Johns Hopkins University
 Department of Psychological and Brain Sciences,
 3400 N. Charles St, Ames Hall Suite 025, Baltimore MD 21218

14. New Permit/License will be Effective: **1/1/2019 and Expire: 12/31/2019** 15. Fee: 10

16 Compliance with the Special Conditions below are necessary for Permit Renewal

A report MUST be filed before this permit will be renewed.

We did not collect any barn owls from the wild during 2018. (We have, in fact, never collected owls from the wild since I started owl research at Johns Hopkins University in 2014. All of our owls are either born in our facility here, or are laboratory-born founders obtained in prior years from researchers at Stanford University and the University of Maryland.)

We currently have 27 owls in our colony, of which 7 are used for breeding. The neuroscience research we perform using barn owls follows approved ACUC procedures and NIH protocols

17. Check one of the following to comply with Maryland's Workmen's Compensation Act (Article 1-401).

- I Am: SUPPLYING DNR WITH A CERTIFICATE OF INSURANCE. (Certificate attached)
- SUPPLYING DNR WITH INSURANCE.BINDER NUMBER _____
- SELF-EMPLOYED OR EMPLOY ONLY FAMILY MEMBERS, AND THEREFORE I AM NOT REQUIRED TO COMPLY WITH THIS LAW.

18. I HEREBY APPLY FOR RENEWAL OF THE ABOVE PERMIT/LICENSE AND CERTIFY UNDER PENALTY OF PERJURY THAT THE INFORMATION HEREIN IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF.

APPLICANT SIGNATURE: _____

DATE: 12/14/2018



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
06/29/2018

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER MARSH USA INC 1717 Arch Street PHILADELPHIA, PA 19103-2797 Attn: philadelphia.certs@marsh.com	CONTACT NAME: _____ PHONE (A/C No., Ext.): _____ FAX (A/C No.): _____ E-MAIL ADDRESS: _____													
	<table border="1"> <thead> <tr> <th>INSURER(S) AFFORDING COVERAGE</th> <th>NAIC #</th> </tr> </thead> <tbody> <tr> <td>INSURER A : N/A</td> <td>N/A</td> </tr> <tr> <td>INSURER B : N/A</td> <td>N/A</td> </tr> <tr> <td>INSURER C : N/A</td> <td>N/A</td> </tr> <tr> <td>INSURER D : Twin City Fire Insurance Company</td> <td>29459</td> </tr> <tr> <td>INSURER E : Arch Insurance Company</td> <td>11150</td> </tr> <tr> <td>INSURER F :</td> <td></td> </tr> </tbody> </table>	INSURER(S) AFFORDING COVERAGE	NAIC #	INSURER A : N/A	N/A	INSURER B : N/A	N/A	INSURER C : N/A	N/A	INSURER D : Twin City Fire Insurance Company	29459	INSURER E : Arch Insurance Company	11150	INSURER F :
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INSURER C : N/A	N/A													
INSURER D : Twin City Fire Insurance Company	29459													
INSURER E : Arch Insurance Company	11150													
INSURER F :														

COVERAGES **CERTIFICATE NUMBER:** CLE 06081202 13 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS

INSR LTR	TYPE OF INSURANCE	ADD'L SUBR INSD WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
	COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER <input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC <input type="checkbox"/> OTHER					EACH OCCURRENCE \$ DAMAGE TO RENTED PREMISES (Ea occurrence) \$ MED EXP (Any one person) \$ PERSONAL & ADV INJURY \$ GENERAL AGGREGATE \$ PRODUCTS - COMP/OP AGG \$ \$
	AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> Hired AUTOS ONLY <input type="checkbox"/> NON-OWNED AUTOS ONLY					COMBINED SINGLE LIMIT (Ea accident) \$ BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
	<input type="checkbox"/> UMBRELLA LIAB <input type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> DED <input type="checkbox"/> RETENTION \$					EACH OCCURRENCE \$ AGGREGATE \$ \$
D	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY <input type="checkbox"/> ANY PROPRIETOR, PARTNER, EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N	10WBAS9150	07/01/2018	07/01/2019	X PER STATUTE OTH-ER EL EACH ACCIDENT \$ 1,000,000 EL DISEASE - EA EMPLOYEE \$ 1,000,000 EL DISEASE - POLICY LIMIT \$ 1,000,000
E		N	WCX 0058710 02	07/01/2018	07/01/2019	
			SIR \$1,000,000			

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
EVIDENCE OF COVERAGE

CERTIFICATE HOLDER **CANCELLATION**

JOHN'S HOPKINS UNIVERSITY OFFICE OF RISK MANAGEMENT & INSURANCE ATTN: THERESA KINZE 3910 KESWICK ROAD, 4TH FLOOR, STE N-4300 BALTIMORE, MD 21211	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE of Marsh USA Inc. Manashi Mukherjee <i>Manashi Mukherjee</i>
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WILDLIFE AND HERITAGE SERVICE

PERMIT LICENSE

Effective: 01 01 2020	SCIENTIFIC COLLECTING	Expires: 12 31 2020
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PERMIT #: 55025

Johns Hopkins University
 ATTN: Dr. Shreesh Mysore
 3400 N. Charles St. 224 Ames Hall
 BALTIMORE, MD 21218

County of Residence:
 Baltimore City

Location:

Authority Statute(s): ACM 10-909
 Regulation(s): COMAR 08.03.09.06

GENERAL CONDITIONS

Conditions in state law and regulations cited above, are hereby made a part of this permit license. All activities authorized herein must be carried out in accord with and for the purposes described in the application submitted. Continued validity, or renewal, of this permit is subject to complete and timely compliance with all applicable conditions, including the filing of all required information and reports.

The validity of this permit is also conditioned upon strict observance of all applicable federal, local or other state laws.

Certain activities allowed under this permit may also require a U.S. Fish and Wildlife Service permit.

This permit does not authorize the collection, salvage, possession or transportation of any species classified as in need of conservation, threatened, or endangered at the state or federal level. If any such species are encountered or inadvertently collected during activities authorized by this permit, the Permits Coordinator must be contacted within 24 hours.

Permittee is not authorized by this permit to access private property or publically held property without express permission from the appropriate authority.

A report of the year's activity must be provided before the permit may be renewed.

The Department may revoke this permit for a violation of the terms and conditions of this permit.

SPECIAL CONDITIONS

Permittee and subpermittee are authorized to possess 30 Barn Owls *Tyto alba* for scientific purposes. Owls will be obtained from the research facility of Dr. Eric Knudsen at the Stanford University Department of Neurobiology Research Facility or the results of breeding at Johns Hopkins University. The Barn Owls will be housed in Maryland at the Department of Psychological and Brain Sciences at Johns Hopkins University. Housing, care, and euthanization protocols should follow Guidelines to the Use of Wild Birds in Research (2010) and other established protocols. At the end of the study, birds may be euthanized, anatomical data may be collected, and specimens may be retained.

Subpermittee: Phyllis Knudsen

ISSUED BY: Christina Jarvis	PERMITS COORDINATOR	ISSUED: 02 04 2020
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WILDLIFE AND HERITAGE SERVICE
APPLICATION FOR WILDLIFE PERMIT/LICENSE RENEWAL

THIS IS AN APPLICATION FOR THE REISSUANCE OF A WILDLIFE PERMIT LICENSE. REVIEW ALL THE INFORMATION IN PARTS 1-10, MAKING ANY NEEDED CORRECTIONS IN THE SPACE TO THE RIGHT. COMPLETE PART 17 AND 18 THEN RETURN WITH FEE SHOWN IN PART 15 TO PERMITS COORDINATOR, WILDLIFE AND HERITAGE SERVICE, 580 TAYLOR AVE., E-1, ANNAPOLIS MD 21401. MAKE CHECKS PAYABLE TO MARYLAND DEPARTMENT OF NATURAL RESOURCES.

CURRENT INFORMATION

CORRECTED/NEW INFORMATION

Johns Hopkins University
ATTN: Dr. Shreesh Mysore
3400 N. Charles St. 224 Ames Hall
BALTIMORE, MD 21218
Baltimore City

1. Company:
2. Name:
3. Street:
4. City, State, Zip:
5. County:

6. EMail: mysore@jhmi.edu
7. Cell Phone #: 650 839 3146

8. Phone Home: 410 982 6655
9. Phone Work: 410 516 6706
10. Name and Title of Principal Officer (If Company):
Dr. Shreesh Mysore

PAID DEC 30 2019

CK # 437

500 5199

11. Type: SCIENTIFIC COLLECTING

12. Current Permit #: 55025

13. Location where authorized activity may be conducted (If Applicable):

Johns Hopkins University
Dept Psychobiol and Brain Sciences
3400 N Charles St, Ames Hall, Suite 025, Baltimore MD 21218

14. New Permit/License will be Effective: 1/1/2020 and Expire: 12/31/2020

15. Fee: 10

16. Compliance with the Special Conditions below are necessary for Permit Renewal.

A report MUST be filed before this permit will be renewed.

We did not collect any barn owls from the wild in 2019. (We have, in fact, never collected owls from the wild since I started my research lab at JHU in 2014. All of our owls are either born in our facility here, or are laboratory-bred founders obtained in prior years from researchers at Stanford University and the University of Maryland.

17. Check one of the following to comply with Maryland's Workmen's Compensation Act (Article 1-401):

- I Am: SUPPLYING DNR WITH A CERTIFICATE OF INSURANCE.
 SUPPLYING DNR WITH INSURANCE BINDER NUMBER _____
 SELF-EMPLOYED OR EMPLOY ONLY FAMILY MEMBERS. AND THEREFORE I AM NOT REQUIRED TO COMPLY WITH THIS LAW.

18. I HEREBY APPLY FOR RENEWAL OF THE ABOVE PERMIT LICENSE AND CERTIFY UNDER PENALTY OF PERJURY THAT THE INFORMATION HEREIN IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF.

APPLICANT SIGNATURE: _____

DATE: 12/6/2019

JOHNS HOPKINS
UNIVERSITY

Johns Hopkins University
200 Reservoir Rd. North - 3000
Suite 74000
Baltimore MD 21211
410-516-2258 / Fax 410-516-7125

December 10, 2019

RE: Permit Request

To Whom It May Concern:

Please be advised by this correspondence that The Johns Hopkins University is a qualified Workers Compensation self-insured, having met the requirements for this designation as set forth by the statues of the State of Maryland and the Maryland Workers Compensation Commission. This status was awarded on July 1, 1980.

If you have any questions regarding this program, please feel free to contact our office.

Sincerely,



Noelle Wahl

SR. Risk Analyst