



A quarterly newsletter detailing poultry related work, research, and events in California

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Questions or Comments?

Contact Maurice Pitesky at:
mepitesky@ucdavis.edu
(530) 752-3215
<https://ucanr.edu/sites/poultry/>

Editor:

Theresa Valdez

New Approaches Toward an Old Foe:

Improving Preparation and Response to virulent Newcastle Disease (vND) in Southern California

Maurice Pitesky, Joseph Gendreau, Myrna Cadena, Alec Michael, Theresa Valdez, Ashley Railey and Jingwen Zhang

Virulent Newcastle Disease or vND is the chicken equivalent of Ebola (aka it kills a lot of birds including domestic poultry). VND is highly contagious and causes high (typically over 70%) morbidity as well as significant drops in egg production in "well-vaccinated" layer hens. While vND is not endemic in the U.S., periodic outbreaks (including 3 outbreaks in Southern California over the last 50 years) have resulted in the death and/or depopulation of millions of birds and hundreds of millions of dollars in economic costs. The introduction and spread of vND during these outbreaks typically follow a pattern from non-commercial chickens to commercial chickens. Therefore, working with non-commercial poultry owners in historically affected areas of Southern California is an essential step toward improving preparedness.

To address these challenges UC Davis was recently awarded a 4 year 1 million dollar grant to leverage social media, disease modeling and extension to improve preparation and response. Specific aspects of the grant include:

Disease modeling:

In a similar fashion to COVID, disease modeling can be used to better understand various scenarios including the efficacy of various vaccination strategies.

App Development:

A new interactive app is being developed to deliver educational and persuasive multimedia materials and to measure the impact of various outreach efforts in various non-commercial poultry communities.

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Poultry? We have an app for that!

Backyard Poultry Central is your hub for the latest information on husbandry practices for new and experienced backyard owners. Get notified of outbreaks as soon as they happen, and receive critical information at your fingertips.

Download the "Backyard Poultry Central" app on the Google Play Store



Scan Me!



New approaches to an old foe continued:

Social media analysis:

A social media monitoring approach is developed to analyze aggregated social media trends to better understand how BYP owners re-act to respiratory disease in their flock and geospatial concentrations of BYP and GF. These data can be leveraged to improve extension efforts and supplement passive disease detection mechanisms like the California Animal Health and Food Safety (CAHFS) laboratories.

Documentary:

In order to better tell the story of vND in Southern California, a documentary will be produced that explains the history of backyard chickens and game fowl ownership and shares the nuances of farmer's experiences of living through the vND "epidemic".

The project is a collaborative effort between the UC Davis School of Veterinary Medicine-Cooperative Extension, UC Davis Department of Communications, USDA-Center for Epidemiology and Animal Health (CEAH) and Oklahoma State University Department of Sociology. The grant concept received letters of support from various stakeholders including the Pacific Egg and Poultry Association (PEPA), California Poultry Federation (CPF) and the California Department of Food and Agriculture (CDFA). If you have any questions or comments please contact Dr. Maurice Pitesky at mepitesky@ucdavis.edu

Community Corner

An Interview with Grant Koziol, an undergraduate student assistant in the lab.

Can you give a brief description of what you do at the lab?

"I work with Joseph using different software to further the research in the lab. This includes building and maintaining aspects of the backyard poultry app to continue educating people. I've recently been working with a lot of twitter data regarding diseases and disease control to see if there is a link between social media usage and disease outbreaks. When people start posting more about their poultry asking about their birds symptoms or things like that it becomes helpful to almost predict an outbreak faster than sick birds can be submitted to local labs."

Why did you choose to pursue computer science?

"I have always been more math-oriented, and it has always been one of my favorite subjects so I thought it sounded interesting! I also enjoy that there is a lot of problem solving. I was able to take AP Computer Science in high school and luckily it was one of the few AP classes our school offered. I also was able to watch my older brother who was a CE major at UCSB and got to see what his experience was like. In the end, it all sounded like something I would enjoy and gave me a good basis for applying to cs at UC Davis. All of CS has different aspects and there's just so many things you can do with it, so the versatility of the field also interested me."

What encouraged you to apply and be a cross-discipline lab assistant?

"I technically applied to a different position in the lab but have always been interested in research. I didn't really know how to enter the field but was also able to relate to Joseph and Maurice during my interview, where after the call they decided that this position would be more suitable for my skills. While poultry isn't necessarily an interest of mine I also love learning about different things and being able to apply the concepts of computer science anywhere, and is one of the reasons I chose to be a cs major. It has been really cool meeting all these people who have pretty different interests than mine and do vastly different work but still being able to work together."

Winter Word Wrangle !

B A C K Y A R D Q Z C U E W Y
Q O N J D H A F J X M V W A S
D M S E C F T S F J O P J T Q
D E X T W V N A I H M S W E B
D I V M P C I Y W W O U I R M
O E S E R I A R O C D R N F Q
C V O E L L Q S U H E V T O T
U G E U A O D W T L L E E W R
M H U G T S P W U L E Y R L A
E L V L E R E M L C E N E V C
N D I X T T E X E O M Q T Y K
T B H Y V Q A A Q N H W E B E
A L G R N S O B C K T Y I J R
R V Z B C W Q T L H B C G N V
Y C H I C K E N W E O J X D Q

Word Bank

development
vegetable
chicken
survey

newcastle
backyard
disease
model

waterfowl
outreach
tracker

documentary
virulent
winter



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Do you Have Commercial Chickens in the Central Valley of California?

Are you Afraid of Avian Influenza?

If your answer was Yes and Yes: Wanna do Something About it???

The recent outbreak of Highly Pathogenic Avian Influenza (HPAI) in a turkey flock in Indiana should remind us of a few basic facts of life when it comes to Avian Influenza and domestic poultry.

AI and specifically HPAI kills a lot of poultry

No one wants AI in their flock

In addition to biosecurity, having real-time updates of waterfowl presence/absence near your poultry premise(s) is an additional tool that could be helpful for farmers and regulators alike.

If your farm(s) are in the central valley of California you can sign up for the California Waterfowl Tracker and you'll receive emails or texts anytime waterfowl are within 2, 5, and/or 10km of your poultry premises. The tool is currently usable during the months of November through March.

To learn more about the California Waterfowl Tracker and how your farm(s) can be included please reach out to Maurice Pitesky at the UC Davis School of Veterinary Medicine-Cooperative Extension at mepitesky@ucdavis.edu or 530-219-1407.



Is there a project the lab is working on that you're particularly excited about?

So something that we have been talking about but unfortunately don't have the resources for yet is a wildfire app that you can download on your phone for times of emergency. CA has been getting a lot of wildfires and they've just been getting worse and worse. Something that Joseph and Dr. Pitesky as well have noticed is a lack in information available for animal and poultry owners in general during wildfires and times of urgency. This app would be an easy-to-use resource during emergencies that will show things like where staging areas are depending on what animals you have. It will come loaded with its own data so in the case that Internet isn't available it will still provide helpful information. We're hoping that this could save a lot of animals and I think it would be really cool if we can help out during wildfire season with something like this. I'm also excited about this project because I think having a concept for an app and seeing it at its infancy through planning and creation is really exciting.

Something else that I'll hopefully be working on soon is deploying a server for our social media virulent Newcastle Disease data modeling project so that we can continuously model it more than just using the data we were given previously. That'll be super cool because it will be valuable to have good data of people talking real time about issues they might be having with their chickens and being able to analyze if they're related to vND. Deploying a server would also be a super valuable skill to learn as a student because that is used throughout the web development industry. Even my brother who now works in the CE industry has encouraged me to pursue this project, saying it would be really good experience for potential career opportunities later. "

Grant Koziol is a junior year Computer Science major and History minor who works remotely for the lab. His hometown is Pleasanton, CA and is the youngest of 5 siblings.



You are invited to participate in a research survey about integrating vegetable and poultry production through rotating poultry and vegetables on the same land!

The purpose of this study is to understand vegetable growers' experiences and perceptions of integrating poultry into vegetable rotations and their interest in engaging with the research. This study is funded by the United States Department of Agriculture (USDA) Organic Research and Education Initiative.

If you agree to participate, you will be asked to complete a short survey (*approximately five minutes*). We do not anticipate that you will experience any risks or discomfort from participating. To take the survey, please follow this link:

https://iastate.qualtrics.com/jfe/form/SV_bxqORFclrwyBtmm

This survey is anonymous, meaning we will not collect any identifying information, like your name. If you would like to get involved in the research through on-farm trials or joining the advisory board or enter a drawing, we will collect your name via a separate link to keep your name separate from your survey answers.

Anonymous data you provide may be shared with funding agencies, if requested.

Participating in this study is completely voluntary. You may choose not to take part in the study or to stop participating at any time, for any reason, without penalty or negative consequences. You can skip any questions that you do not wish to answer.

If you choose to complete the survey, you will have the opportunity to enter a drawing to win one of 4-\$25 gift cards.

If you have any questions regarding this survey, please contact Arlene Enderton by email at arlene@iastate.edu or phone at (641) 425-4948.

If you have any questions about the rights of research subjects or research-related injury, please contact the IRB Administrator, (515) 294-4566, IRB@iastate.edu, or Director, (515) 294-3115, Office of Research Ethics, Iowa State University, Ames, Iowa 50011.



We're on Instagram and Facebook!

Have you ever wondered what a day in the life of grad students and researchers is like? The ups, the downs, trials and tribulations, funny stories and not so funny stories...

If so, follow the Pitesky Lab at UC Davis on Instagram and Facebook to find out!
We are ready to connect with you.

The Cooperative Extension Poultry lab at the UC Davis School of Veterinary Medicine is led by veterinarian and Cooperative Extension Specialist, Dr. Maurice Pitesky. Since 2013, Dr. Pitesky has worked with various chicken groups from backyard chicken owners in California to small-scale commercial farmers in Nepal and Uganda. Along the way, he has built a diverse team of epidemiologists, engineers, social scientists, veterinarians, and animal biologists just to name a few. Join us as we tackle research projects as diverse as our team. We are looking forward to sharing our story. But more importantly, we are excited to meet you!

**Follow us @ucdpiteskylab
or with the links below!**



<https://www.instagram.com/ucdpiteskylab>



<https://www.facebook.com/ucdpiteskylab>

**For backyard chicken resources, visit our
linktrees at:**



<https://linktr.ee/ucdpiteskylab>

**Recursos hechos por UC Davis para los
dueños de aves de corral en español:**



<https://linktr.ee/ucdlaboratoriopitesky>

Have you seen our video series, 'The Sitch'?

Sit down with Dr. Maurice Pitesky as he answers the most common questions for new and experienced backyard poultry owners alike. Get insightful and accurate information on the best practices for raising your own birds.

Visit our channel at:
<https://www.youtube.com/c/UCDavisVetMedPoultryUniversity>

