DATE: November/2024

#### **CURRICULUM VITAE**

## Candice P. Chu, DVM, PhD, DACVP (Clinical Pathology)

# CONTACT INFO:

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Personal website: <u>CandiceChuDVM.com</u> Linktree: <u>https://linktr.ee/vet.clin.path.professor</u>

#### **POSITIONS and EMPLOYMENT:**

June 2024- Tenure-Track Assistant Professor, Department of Veterinary Pathobiology

Texas A&M University, College of Veterinary Medicine and Biomedical Sciences

Jan 2023- Digital Pathology Contractor, Zoetis

May 2024

2021-2023 Assistant Professor of Clinical Pathology, Department of Pathobiology

University of Pennsylvania, School of Veterinary Medicine

#### **EDUCATION:**

2018 Doctor of Philosophy, Veterinary Pathobiology; Texas A&M University (GPA: 4.0/4.0)

2013 Doctor of Veterinary Medicine; National Taiwan University (GPA: 3.84/4.0)

## POSTDOCTORAL TRAINING and FELLOWSHIP APPOINTMENTS:

2018-2021 Residency in Veterinary Clinical Pathology; Texas A&M University

#### **SPECIALTY CERTIFICATION:**

2021 Diplomate, American College of Veterinary Pathologists (Clinical Pathology)

## **RESEARCH INTERESTS:**

Pathogenesis and novel biomarker discovery in chronic kidney disease; Computational biology; RNA sequencing data analysis; Artificial intelligence in Veterinary Medicine; digital cytology; Meta-analysis

#### **LICENSURE and CERTIFICATES:**

2024 Compass: NIH-funded training and mentoring program for early-career biomedical

researchers, Washington University School of Medicine

2022 Penn Faculty Pathways Program, University of Pennsylvania

2021 QPR Suicide Prevention Gatekeeper Program, Texas A&M University

2020-2021 Texas Special License (#S-576)

2020 Certificate for Diversity & Inclusion in Veterinary Medicine, Purdue University

2016 Certificate of Achievement in Hemodialysis Academy, UC Davis

2016 CVM Inclusive Climate Aggie Ally, Texas A&M University
 2015 North American Veterinary Licensing Examination (NAVLE)

2013 Taiwan Veterinary License (#7309)

## **NATIONAL COMMITTEES AND ACTIVITIES:**

| 2022-Present | Member, ACVP Training Program Accreditation Committee           |
|--------------|---|
| 2022-Present | Member, ASVCP Education Committee                               |
| 2021-Present | Member and Forum Co-chair, ACVP Pathology Informatics Committee |
| 2019-2023    | Member and Chair-Elect, ASVCP Media and Communication Committee |

#### AD HOC/INVITED REVIEWS:

| 2024-Present | The Veterinary Journal (1 manuscript)                               |
|--------------|---|
| 2023-Present | Journal of Feline Medicine and Surgery (1 manuscript)               |
| 2023-Present | Morris Animal Foundation Scientific Advisory Board                  |
| 2022-Present | AKC-CHF grant review (3 proposals)                                  |
| 2022-Present | MDPI Animals (1 manuscript), BMC Veterinary Research (1 manuscript) |
| 2018-Present | Veterinary Clinical Pathology (8 manuscripts)                       |

## PROFESSIONAL ASSOCIATIONS:

| 2024-Present | Member, Association of Veterinary Informatics                        |
|--------------|--|
| 2023-Present | Member, American Society of Cytopathology                            |
| 2021-Present | Member, Digital Pathology Association                                |
| 2020-Present | Member, Clinical and Translational Science Award One Health Alliance |
| 2020-Present | Member, American College of Veterinary Pathologists                  |
| 2020-Present | Member, American Society of Veterinary Nephrology and Urology        |
| 2019-Present | Member, International Society for Animal Clinical Pathology          |
| 2016-Present | Member, American Society for Veterinary Clinical Pathology           |

# AWARDS, HONORS and MEMBERSHIP in HONORARY SOCIETIES:

## Assistant Professor of Clinical Pathology at University of Pennsylvania

2022 McCabe Award, Perelman School of Medicine, UPenn

# **Veterinary Clinical Pathology Resident at Texas A&M University (TAMU)**

| =    |   |
|------|---|
| 2021 | Phi Zeta Veterinary Professional Honor Society (ETA CHAPTER)                      |
| 2021 | Davis-Thompson Foundation Pathology Trainee and Scholarship Awards                |
| 2020 | ASVCP Share the Future Presentation Award   |
| 2020 | ACVP Harold W. Casey Scholarship Award (Given to one pathology resident per year) |
| 2019 | ASVCP Young Investigator Award - Basic Research                                   |
| 2019 | ASVCP Resident Externship Training in Industry Scholarship                        |
| 2019 | American Society of Nephrology Kidney STARS (First DVM awardee)                   |
| 2019 | TAMU CVM Postdoctoral Association Travel Award                                    |
| 2019 | TAMU Graduate Student Platform Presentation (Second Place)                        |

# **PhD Student at TAMU**

| 2018 | TAMU High Impact Achievement Award (First Author Award)                            |
|------|--|
| 2018 | TAMU Graduate Student Poster Presentation (Third Place)                            |
| 2018 | TAMU Graduate Student Platform Presentation (People's Choice Award)                |
| 2017 | ACVP Young Investigator Award - Natural Disease (First Place)                      |
| 2017 | ASVCP Young Investigator Award - Basic Research                                    |
| 2017 | ACVP Resident/Graduate Student Travel Award  |
| 2017 | ASVCP Share the Future Travel Award  |
| 2017 | TAMU Graduate Student 3-Minute Flash Talks (First Place and People's Choice Award) |

| 2017 | TAMU High Impact Achievement Award (Small Grant Recipient)                            |
|------|---|
| 2016 | American College of Veterinary Pathologists (ACVP) Young Investigator Award - Natural |
|      | Disease (First Place)   |
| 2016 | Government Scholarship to Study Abroad, Ministry of Education, Taiwan                 |
| 2016 | TAMU College of Veterinary Medicine (CVM) Graduate Student Association Travel         |
|      | Award   |
| 2016 | North America Taiwanese Engineering & Science Association Scholarship, USA            |
| 2014 | TAMU Lechner Scholarship  |

# **Veterinary Student at National Taiwan University (NTU)**

| 2013 | Animal Medical Research Foundation Scholarship, Taiwan                               |
|------|--|
| 2013 | Young Collage Elite, China Youth Corps, Taiwan                                       |
| 2012 | Taipei Veterinary Medical Association Scholarship, Taiwan                            |
| 2012 | NTU School of Veterinary Medicine Alumni Association Scholarship                     |
| 2012 | NTU President Award (Top 5% of the class)  |
| 2012 | NTU Outstanding College Youth Award (Top 15 students among 32,693 students)          |
| 2010 | International Youth Ambassadors Exchange Program at Eswatini, South Africa (formerly |
|      | known as Swaziland), Ministry of Foreign Affairs, Taiwan                             |

## **PUBLICATIONS**

### **Peer-Reviewed Papers**:

- 1. **Chu C**, Nabity Mary. Urinary MicroRNA as Biomarkers for Chronic Kidney Disease in Dogs and Cats: Updates and Challenges. *Vet Clin Pathol.* (In revision)
- 2. **Chu C**, Ko MC, Tu E, Marciano K. Artificial Intelligence-Assisted Cytologic Diagnosis of Intermediate to Large B-Cell Lymphoma in Dogs: A Pilot Study. *Vet Clin Pathol*. (In revision)
- 3. **Chu C**. ChatGPT in Veterinary Medicine: A Practical Guidance of Generative Artificial Intelligence in Clinics, Education, and Research. *Front vet sci.* 2024;11:1395934.
- 4. Cherry AD\*, **Chu C**\*, Cianciolo RE, Hokamp JA, Jacobson S, Nabity MB. MicroRNA-126 in dogs with immune complex-mediated glomerulonephritis. *J Vet Intern Med.* 2024; 38(1): 216-227 \***Co-first authors (listed based on alphabetical order)**
- 5. Wong, AC, Devason A, Umana IC, Cox TO, Dohnalová L, Litichevskiy L, Perla J, Lundgren P, Etwebi Z, Izzo L, Kim J, Monika T, Wisser S, McKnight AD, Pardy RD, Descamps HC, Blank N, Patel S, Thum K, Miller B, Liou M, Madhu B, Dmitrieva-Posocco O, Hewins P, Chu C, Baraniecki-Zwil G, Giron LB, Baxter AE, Greenplate AR, Kearns C, Montone K, Litzky LA, Feldman M, Striepen B, Ramage H, Jurado KA, Wellen KE, O'Doherty U, Abdel-Mohsent M, Landay AL, Keshavarzian A, Henrich TJ, Deeks SG, Peluso MJ, Heath JR, Wherry J, Meyer NJ, Abramoff B, Cherrys S, Thaiss CA, Levy M. Serotonin reduction in post-acute sequelae of viral infection. *Cell*, 2023 Oct 26;186(22):4851-4867.e20.
- 6. **Chu C**, Nabity MB, Porter BF, Aceino A. What is your diagnosis? Large perianal mass in a dog. *Vet Clin Pathol*, 2023 May 30, 00: 1- 4.
- 7. **Chu C**, Liu S, Song W, Nabity MB. Small RNA sequencing evaluation of renal microRNA biomarkers in dogs with X-linked hereditary nephropathy. *Sci Rep*, 2021 August 31, 11:17437.
- 8. **Chu, C**, Nabity MB. Comparison of RNA isolation and library preparation methods for small RNA sequencing in canine biofluids. *Vet Clin Pathol* 48(2):310-319, June 2019.
- 9. **Chu C**, Hokamp JA, Cianciolo RE, Dabney A, Brinkmeyer-Langford C, Lees GE, Nabity MB. RNA-Seq of serial kidney biopsies obtained during progression of chronic kidney disease from dogs with X-linked hereditary nephropathy, *Sci Rep*, 2017 Dec 1;7(1):16776.
- Brinkmeyer-Langford C, Chu C, Balog C, Nabity M, Kornegay JN. Expression profiling of disease progression in canine model of Duchenne muscular dystrophy. *PLoS One*, 2018 Mar 19;13(3):e0194485.

### **Continuing Education Articles:**

- 1. Chu C. How I streamline academic writing with AI and digital tools. Nature Career Column (in press)
- 2. Chu C. Round Cell Tumor Cytology in Dogs. Veterinary Focus, 2024 April
- 3. Chu C. Top 3 Conditions Missed by Skipping a Urinalysis. Clin Brief, 2023 Sep.

#### **Published Abstracts:**

- 1. **Chu C.**, Ko MC, Tu E. "Artificial Intelligence-Assisted Cytologic Diagnosis of Canine Large B-Cell Lymphoma" ACVP conference (November 15, 2022)
- 2. **Chu C.**, Osorio D., Nabity M. "Renal Single-cell RNA Sequencing in Dogs with a Naturally Occurring Progressive Chronic Kidney Disease" 2022 American College of Veterinary Internal Medicine (ACVIM) Forum (June 23, 2022)

#### **Conference Abstracts:**

## American College of Veterinary Pathologists (ACVP) Annual Meeting

- 1. **Chu C.** "VetClinPathGPT: Exploring The Potential of Generative Artificial Intelligence in Veterinary Education" ACVP conference (November 17, 2024)
- 2. **Chu C.**, Piviani M., Duxbury S., Salah P. "ASVCP Mystery Slide Case 13." ACVP conference (November 15, 2022)
- 3. **Chu C.**, Ko M-C, Tu E. "Artificial Intelligence-Assisted Cytologic Diagnosis of Canine Large B-Cell Lymphoma." ACVP conference (November 15, 2022)
- 4. **Chu C.**, Nabity M.B., Porter B.F., Aceino A. "What is your diagnosis? Large perianal mass in a dog." ACVP conference (Oral November 1, 2020)
- 5. **Chu C.**, Cianciolo R., Hokamp J., Lees G.E., Nabity M. "Urinary MicroRNA Profiling in Dogs with Chronic Kidney Disease Caused by Glomerular Diseases." ACVP conference (Oral November 10, 2019)
- 6. **Chu C.** and Nabity M. "Comparison of Methods for Preparation of Biofluids in Dogs for Small RNA Sequencing." ACVP conference (Oral November 5, 2017)
- 7. **Chu C.**, Osorio D., Nabity M. "Single-cell RNA Sequencing of Canine Kidney Enables Estimation of Cell Type Abundance From Bulk Tissue Transcriptome in Digital Cytometry" ACVP conference (Poster October 30, 2020)
- 8. **Chu C.** and Nabity M. "Small RNA-seq evaluation of microRNAs during disease progression in kidney biopsies from dogs with X-linked hereditary nephropathy." ACVP conference (Poster November 5, 2017)
- 9. **Chu C.**, Hokamp J., Dabney A., Aguilar M., Nabity M. "RNA-seq of Serial Kidney Biopsies Obtained During Progression of Chronic Kidney Disease from Dogs With X-linked Hereditary Nephropathy." ACVP conference (Poster December 4, 2016)

# American College of Veterinary Internal Medicine (ACVIM) Annual Meeting

- 10. **Chu C.**, Osorio D., Nabity M. "Renal Single-cell RNA Sequencing in Dogs with a Naturally Occurring Progressive Chronic Kidney Disease" ACVIM Forum (June 23, 2022)
- 11. Cherry A., **Chu C.**, Cianciolo R., Hokamp J., Jacobson S., Nabity M. "Urinary miRNA 126 is Elevated in Dogs with Immune Complex-Mediated Glomerulonephritis" ACVIM Forum (June 23, 2022)

#### American Society of Nephrology (ASN) Kidney Week

12. **Chu C.**, Cianciolo R., Hokamp J., Lees G.E., Nabity M. "Biofluid MicroRNA Expression Patterns in Three Types of Naturally-Occurring Canine Models for Glomerular Disease." American Society of Nephrology Kidney Week (Poster - November 9, 2019)

## Society of Toxicologic Pathology (STP) Annual Symposium

13. Smith M., Wilcox A., Schwartz J., O'Neill T., Crouch E., Rudmann D., Westerling T., Smith L., **Chu C**. "Screening for bone marrow cellularity changes in toxicology safety studies using Al models" 2022 Society of Toxicologic Pathology Annual Symposium (Oral - June 20, 2022)

## European Society of Veterinary Pathologists (ESVCP) Annual Meeting

14. Dulli R., Jennings A., **Chu C.**, Russell K., Chaffin K. "ESVCP Mystery Slide" 2021 ESCVP conference (Oral - October 16, 2021)

### **Talbot Veterinary Informatics Symposium**

15. **Chu C.** "The Future of Veterinary Research: Navigating Literature and Writing with Al and Digital Tools." Talbot Veterinary Informatics Symposium (Oral – September, 2024)

#### **CL Davis Annual South-Central Division Meeting**

- 16. **Chu C.**, Vail K., Bacon R., Dunnehoo C. "Erythrocyte Abnormalities in A Reindeer" CL Davis Annual South-Central Division Meeting (Oral October 2, 2020)
- 17. **Chu C.**, Hernandez A., Giaretta P., Porter B. "Leukocytosis in A Labrador Retriever." CL Davis Annual South-Central Division Meeting (Oral October 5, 2018)

## **KEYNOTE PRESENTATION:**

2024 **ChatGPT in Veterinary Medicine.** American College of Veterinary Radiology (ACVR) Scientific Conference. Norfolk, VA, USA.

#### SCIENTIFIC PRESENTATIONS BY INVITATION:

| 2025 (invited) | The impact of AI on veterinary diagnostics and consulting. Purina Institute Global Summit. St. Louis, MU, USA  |
|----------------|--|
| 2025 (invited) | Al and medicine: where are we now? where are we heading? Should we embrace or be afraid? (IDEXX sponsored). VMX Veterinary Conference. Orlando, FL, USA  |
| 2024 (invited) | <b>The Application of Artificial Intelligence in Veterinary Pathology.</b> American College of Veterinary Pathologists (ACVP) Lifelong Learning Webinar.   |
| 2024           | From Feed to Finish: Al and Digital Tools for Streamlining Academic Writing.  American College of Veterinary Pathologists (ACVP) Annual Forum. Seattle, WA, USA.   |
| 2024           | Next Gen Veterinary Researcher: How I streamline academic writing with AI and digital tools. Research Conversation. TAMU, TX, USA.   |
| 2024           | Al PANEL: Challenges and Insights of the Biotech Industry in the Al Era. Texas Taiwanese Biotechnology Association (TTBA) Symposium. Houston, TX, USA  |
| 2024           | Next Gen Veterinary Researcher: How I streamline academic writing with AI and digital tools. American College of Veterinary Internal Medicine (ACVIM) Annual Meeting, ASVCP Specialty Sessions. Minneapolis, MN, USA.              |
| 2024           | Revolutionizing Veterinary Medicine with ChatGPT: A New Frontier in Artificial Intelligence Applications. American College of Veterinary Internal Medicine (ACVIM) Annual Meeting, ASVCP Specialty Sessions. Minneapolis, MN, USA. |
| 2024           | <b>Al Tools in Research</b> , Taiwanese Biomedical Professional Society Monthly Seminar. UPenn, Philadelphia, PA, USA.   |
| 2023           | <b>AI PANEL: AI in Medicine.</b> Taiwanese American Association of Biotechnology (TAAB) Annual Symposium. Philadelphia, PA, USA.   |
| 2023           | Urinary MicroRNAs as Biomarkers in Canine and Feline Chronic Kidney Disease.  American College of Veterinary Internal Medicine (ACVIM) Annual Meeting, ASVCP Specialty Sessions. Philadelphia, PA, USA.                            |
| 2023           | Mystery bone marrow case. Clinical Pathology Seminar. Texas A&M University, USA  |
| 2022           | Urinary MicroRNAs as Biomarkers for Chronic Kidney Disease in Dogs and Cats. Special Seminar. Institute of Molecular and Comparative Pathobiology, National Taiwan University, Taipei City, Taiwan.                                |
| 2022           | <b>Urinary extracellular vesicles in feline chronic kidney disease.</b> Advanced Urinary Care Rounds. Penn Vet, PA, USA.   |
| 2022           | Scientific advisory board on chronic kidney disease. Boehringer Ingelheim ACVIM Pre-congress Meeting, Austin, TX, USA.   |
| 2022           | <b>Mystery bone marrow case.</b> Clinical Pathology Seminar. Texas A&M University, TX, USA.  |
| 2022           | <b>MicroRNAs: Biomarkers in Canine chronic kidney disease.</b> Advanced Urinary Care Rounds. Penn Vet, Philadelphia, PA, USA.  |

## CONTINUING EDUCATION PRESENTATIONS BY INVITATION:

| 2025 (invited) | Blood Morphology Matters: Common Clinically Significant Findings You Might         |
|----------------|--|
|                | Miss If You Don't Smear (IDEXX sponsored). VMX Veterinary Conference. Orlando,     |
| // 1: 1)       | FL, USA  |
| 2025 (invited) | The 'art' of interpreting blood morphology (IDEXX sponsored). VMX Veterinary       |
|                | Conference. Orlando, FL, USA   |
| 2024           | Blood Morphology Matters: Common Clinically Significant Findings You Might         |
|                | Miss If You Don't Smear. American Veterinary Medical Association (AVMA)            |
|                | Convention. Austin, TX, USA.   |
| 2024           | All You Need to Know About Round Cell Tumor Cytology. VETgirl. Webinar.            |
| 2024           | Top 3 Conditions Missed by Skipping Urinalysis (with Dr. Alyssa Watson).           |
|                | Clinician's Brief. Podcast.  |
| 2024           | Cytology Trivia. Small Animal Oncology. National Taiwan University, Taiwan.        |
| 2024           | Round Cell Tumor Cytology. Hill's Pet Nutrition. Webinar.                          |
| 2023           | Cytology Lecture Series (4 hours). The 38th World Veterinary Association Congress. |
|                | Taipei, Taiwan.  |
| 2022           | Cytologic Diagnosis of Urinary Tract Diseases in Small Animals. Chinese Society    |
|                | of Comparative Pathology Annual Meeting. Webinar.                                  |
| 2020           | Skin Cytology Webinar Series. Vetderm.eu. Webinar.                                 |
| 2019           | Interpretation of ProCyte Dx dot plots and the basic concepts of flow cytometry    |
|                | and PARR. Special Seminar. National Taiwan University, Taiwan.                     |
| 2019           | Veterinary Clinical Pathology (4 hours). Special Seminar. National Chung-Hsing     |
|                | University, Taiwan.  |
|                | ominion, raman   |

# ORAL PRESENTATION IN OUTREACH ACTIVITIES:

| 2024 | Coffee Chat. Texas Taiwanese Biotechnology Association (TTBA). TAMU, TX, USA            |
|------|---|
| 2024 | How to Apply for Veterinary Graduate Schools in United States. Taiwan Veterinary        |
|      | Medicine Student Association (TVMSA). Webinar.  |
| 2023 | Opportunities Beyond Cytology: The Thousand Faces of Veterinary Clinical                |
|      | Pathologists. International Veterinary Students Association (IVSA) Pathology Network.   |
|      | Webinar.  |
| 2023 | So, you want to be a vet? National Experimental High School, Taiwan.                    |
| 2023 | A Conversation in Veterinary Pathology (with Drs. Caralyn Labriola and Hannah           |
|      | Atkins). The A.C.V.P. Podcast.  |
| 2022 | Setting up a science blog. CVMBS-PDA monthly meeting. Webinar.                          |
| 2022 | Becoming a pet owner: Understand their medical needs. Taiwanese Biomedical              |
|      | Professional Society Monthly Seminar. UPenn, Philadelphia, PA, USA.                     |
| 2021 | How to Land on Faculty Position. TTBA. Webinar.   |
| 2021 | How to apply for faculty positions in the US. NTU Alumni Career Column.                 |
| 2021 | High School Students Career Workshop. Taiwan Veterinary Medicine Students'              |
|      | Association (TVMSA). Webinar.   |
| 2020 | I AM CVM. CVM, TAMU, TX, USA.   |
| 2020 | Job Hunting Tips: Building Your Online Portfolio. Texas Taiwanese Biotechnology         |
|      | Association (TTBA). Webinar.  |
| 2020 | My pathway to board-certified clinical pathologist in the US. NTU Alumni Career         |
|      | Column.   |
| 2019 | Veterinary Education in the United States and Taiwan - Differences and                  |
|      | <b>Prospects.</b> North America Taiwanese Professors' Association (NATPA), Houston, TX, |
|      | USA   |
| 2018 | Veterinary Training System in the US. Taiwanese Young Researcher Association            |
|      | (TYRA). Webinar.  |
| 2016 | How to apply for US graduate schools. National Taiwan University & National Chung-      |
|      | Hsing University, Taiwan  |

# **RESEARCH GRANTS**

# Ongoing Grant Activity (\$121,288):

| Name of Grant & sponsor number      | Funding<br>Agency                     | Period<br>of<br>Grant | Type<br>of<br>Grant | Role in<br>Grant and<br>percent<br>effort | Annual<br>Direct<br>Cost | Annual<br>Indirect<br>Cost | Additional<br>Comments |
|-------------------------------------|---------------------------------------|-----------------------|---------------------|---|--------------------------|----------------------------|------------------------|
| AKC Canine Health Foundation/Zoetis | AKC<br>Canine<br>Health<br>Foundation | 2<br>years            | PG                  | Co-<br>Investigator                       | \$101,656                | \$8,132                    | N/A                    |
| CAP-K-Grant                         | EveryCat<br>Health<br>Foundation      | 2<br>years            | PG                  | PI; 16.66%                                | \$11,500                 | N/A                        | N/A                    |

# Past Grant Activity (\$93,977):

| Name of Grant<br>& sponsor<br>number  | Funding<br>Agency | Period<br>of Grant | Type<br>of<br>Grant | Role in<br>Grant and<br>percent<br>effort | Annual<br>Direct<br>Cost | Annual<br>Indirect<br>Cost | Additional<br>Comments |
|---|-------------------|--------------------|---------------------|---|--------------------------|----------------------------|------------------------|
| Program in Comparative Animal Biology (PICAB) Pilot Grants in Mechanisms of Pathology in Animals Models of Human Diseases | UPenn             | 2 years            | PG                  | PI; 15%                                   | \$30,000                 | N/A                        | N/A                    |
| Companion<br>Animal<br>Research Fund<br>(CARF)  | UPenn             | 2 years            | PG                  | PI; 16.66%                                | \$31,477                 | N/A                        | N/A                    |
| McCabe Fund<br>Award  | UPenn             | 1 year             | PG                  | PI; 16.66%                                | \$20,000                 | N/A                        | N/A                    |
| Graduate Student Core Facility Experimental Learning Program Grant  | TAMU<br>CVM       | 1 year             | TG                  | PI; 100%                                  | \$2,500                  | N/A                        | N/A                    |
| Postdoctoral<br>Research<br>Trainee Grant   | TAMU<br>CVM       | 1 year             | TG                  | PI; 100%                                  | \$10,000                 | N/A                        | N/A                    |

## **CLINICAL SERVICE**

### Texas A&M University (2024-Present)

| Title of           | Number of   | Number of      | Number of   | Number of   | Average     | Total     |
|--------------------|-------------|----------------|-------------|-------------|-------------|-----------|
| Service            | Months on   | Weeks/Weekends | Days on     | Hours on    | Number of   | Number of |
|                    | Clinics per | on Clinics per | Clinics per | Clinics per | Cases on    | Cases     |
|                    | Year        | Month          | Week        | Day         | Clinics per | Diagnosed |
|                    |             |                |             | -           | Day         | to Date   |
| Cytology<br>Review | 12          | 1-2            | 5           | 9           | 15          | 144       |

### University of Pennsylvania (2021-2023)

| Title of | Number of   | Number of   | Number of   | Number of   | Average     | Total     |
|----------|-------------|-------------|-------------|-------------|-------------|-----------|
| Service  | Months on   | Weeks on    | Days on     | Hours on    | Number of   | Number of |
|          | Clinics per | Clinics per | Clinics per | Clinics per | Cases on    | Cases     |
|          | Year        | Month       | Week        | Day         | Clinics per | Diagnosed |
|          |             |             |             |             | Day         | to Date   |
| Cytology | 12          | 1-2         | 5           | 9           | 21          | 1593      |
| Review   |             |             |             |             |             |           |

#### **CLINICAL PATHOLOGY EXTERNSHIPS:**

2020 Nov-Dec Digital pathology externship at Charles River Laboratories (remote)
Mentor: Mark Smith, VMD, PhD, DACVP (Anatomic Pathologist)

Angela Wilcox, BVSc, MS, DACVP, DABT (Clinical Pathologist)

- Participated in the development of a deep learning artificial intelligence (AI) method
  to provide decision support for evaluation of bone marrow cellularity in the
  cynomolgus monkey.
- Thoroughly reviewed a toxicologic study from data interpretation to report generation with A.W.

2020 Feb

Texas A&M Veterinary Medical Diagnostic Laboratory, College Station, TX Mentor: Julie Piccione, DVM, MS, DACVP (Clinical Pathology Section Head)

- Engaged in real-time diagnostic evaluation of specimens (glass slides and digital images) under the supervision of clinical pathologists.
- Learned client-centered communication skills and conflict management through observing follow-up consultations requested by practicing veterinarians.

2019 Dec

ASVCP-sponsored two-week externship at IDEXX Laboratories (Westbrook, ME) Mentor: Sarah Peterson, MD, PhD (Clinical Research Manager)

- Exposed to the IDEXX culture and a wide variety of current topics and issues in the
  fast-paced work environment through participating in laboratory tours, shadowing the
  clinical research manager, and attending regular meetings with the R&D and Medical
  Affairs team members.
- My IDEXX externship report is available at https://www.asvcp.org/page/RAC ExternshipReports

2016 Aug

Purdue University, West Lafayette, IN

Mentor: Craig A. Thompson, DVM, DACVP (Clinical Associate Professor)

 Successfully interpreted 23 chemistry cases and diagnosed 15 cytology cases in the two-week ACVP clinical pathology externship and gained experience from reading 41

bone marrow slides at the Purdue Bone Marrow Workshop. Offered a clinical pathology residency position in Nov 2017.

## **TEACHING ACTIVITIES**

## Texas A&M University (2024-Present)

## **TEACHING RESPONSIBILITIES:**

2024 BIMS 602: Found Biomedical Graduate Education & Research

2024 VIBS 914: Prof & Clinical Skills

2024 VTPB 927: Clinical Laboratory Medicine - Clinical Pathology

| Academic<br>Year                              | Semester | Course #    | Course Name                                    | Student<br>Number | Topic   | Lecture<br>Hours | Lab<br>Hours |
|---|----------|-------------|--|-------------------|---|------------------|--------------|
| 2024  | Fall     | VTPB<br>927 | Clinical<br>Pathology                          | 182               | Monovalent<br>Electrolytes,<br>Acid-base                                  | 3                | 4            |
| 2024  | Fall     | VIBS<br>914 | Prof & Clinical<br>Skills                      |                   | Al Panel  | 1                | 0            |
| 2024  | Fall     | BIMS<br>602 | Found Biomedical Graduate Education & Research |                   | How to use AI<br>and digital tool<br>to streamline<br>academic<br>writing | 1                | 0            |
| 2024 Total Lecture=5 hours; Total Lab=4 hours |          |             |  |                   |   |                  |              |

#### **RESIDENT/INTERN TRAINING RESPONSIBILITIES:**

2024-Present Weekly Cytology Rounds (VTPB and VSCS interns and residents)

2024-Present Weekly Clinical Pathology Book Club and Journal Club (Clinical pathology residents)

2024 Interpretation Quiz Rounds (Anatomic pathology residents)

## University of Pennsylvania (2021-2023)

## **TEACHING RESPONSIBILITIES:**

2022 VPTH 606: Clinical Pathology (131 students; 9 lectures, 2 lab, 11 contact hours)

| Academic<br>Year                        | Semester | Course #    | Course<br>Name        | Student<br>Number | Topic   | Lecture<br>Hours | Lab<br>Hours |
|---|----------|-------------|-----------------------|-------------------|---|------------------|--------------|
| 2022                                    | Spring   | VPTH<br>606 | Clinical<br>Pathology | 131               | Renal,<br>Electrolytes,<br>Calcium,<br>Review | 9                | 2            |
| 2022 Total Lecture=9 hours; Total Lab=2 |          |             |                       |                   |   |                  |              |

## **Teaching Evaluation**

| Course | Average | Student comments |
|--------|---------|------------------|
| Name   | Score   |                  |

| VPTH 606<br>Clinical | <br>Very organized  |
|----------------------|---|
| Pathology            | I loved Dr. Chu's lectures. My only issue with her lectures was that there was not enough time for discussion of the cases which I feel is essential for this class   |
|                      | Powerpoints were very organized and helpful!  |
|                      | Great explanations and her slides really helped me consolidate material when I was studying. It does require a bit more work on my end because she provides a lot of information in one lecture, but it is thorough and helps me understand the material. |
|                      | I really liked Dr. Chu's lectures in clin path. They were very detailed and I appreciated the use of powerpoints because there was often information that I missed during class.  |
|                      | DR. CHU IS LITERALLY AMAZING!!! SHE MAKES THE MATERIAL SO ENGAGING AND HELPS WITH SLIDES I UNDERSTAND SO MANY CORE CONCEPTS BECAUSE OF HER  |
|                      | Very organized!   |
|                      | Love the flow charts. Wonderful professor.  |
|                      | AMAZING presentation of the information. Loved the repetition and tricks to remember certain items  |
|                      | Your lectures were extremely clear and effective. You are a great presenter. Thank you.   |

# **Texas A&M University (20214-2021)**

# **TEACHING RESPONSIBILITIES:**

| 2014      | POSC 660 Experimental Immunology (16 graduate students; 72 hours)                 |
|-----------|---|
| 2016-2017 | VTPP 638 Analysis of Genomic Signals (13 graduate students; 2 hours)              |
| 2018      | VMID 689 Special Topics (26 graduate students; 1 hour)                            |
| 2018-2021 | VTPB 940 Clinical Diagnostics (304 veterinary students; 351.9 hours)              |
| 2018-2020 | VTPB 927 Clinical Laboratory Medicine (437 veterinary students; 41 hours)         |
| 2019      | BIMS 602 Foundations in Biomedical Graduate Education and Research (31            |
|           | graduate students; 1 hour)  |
| 2019      | VIBS 914 Professional & Clinical Skills II (141 students; 6 hours)                |
| 2019-2020 | VIBS 936 Vets in Society (318 veterinary students; 2 hours)                       |
| 2020      | Veterinary Intern Skills Laboratories (10 veterinary interns; 3 hours)            |
| 2020      | VTHT 2223 Veterinary Clinical Pathology, Blinn College, Bryan, TX (16 students; 4 |
|           | hours)  |

| Academic<br>Year | Semester     | Course #    | Course Name                       | Student<br>Number | Topic                                | Lecture<br>Hours | Lab<br>Hours |
|------------------|--------------|-------------|-----------------------------------|-------------------|--------------------------------------|------------------|--------------|
| 2014             | Fall         | POSC<br>660 | Experimental Immunology           | 16                | Teaching<br>Assistant                | 0                | 72           |
| 2014 Total L     | _ab TA=72 h  | ours        |                                   |                   |                                      |                  |              |
| 2016             | Fall         | VTPP<br>638 | Analysis of<br>Genomic<br>Signals | 7                 | How to<br>analyze<br>RNA-seq<br>data | 1                | 0            |
| 2016 Total L     | _ecture=1 ho | our         |                                   |                   |                                      |                  |              |
| 2017             | Fall         | VTPP<br>638 | Analysis of<br>Genomic<br>Signals | 6                 | How to<br>analyze<br>RNA-seq<br>data | 1                | 0            |

| 2018 Total Lecture=49.5 hours; Total Lab TA=16 hours   | 2017 Total | Lecture=1 ho        | our         |   |       |                                      |       |    |
|--|------------|---------------------|-------------|---|-------|--------------------------------------|-------|----|
| Pall   VTPB   Clinical   Medicine   VTPS   Clinical   VTPS   VTP   | 2018       | Fall                |             | Special Topics                          | 26    | Great Slide                          | 1     | 0  |
| 2018 Total Lecture=49.5 hours; Total Lab TA=16 hours   | 2018       | Fall                |             |   | 52    |                                      | 48.5  | 0  |
| Spring & Summer & P40  | 2018       | Fall                |             | Laboratory                              | 137   | cytology, and                        | 0     | 16 |
| Summer& Fall  2019 Spring VIBS 914 Clinical Skills II Hamatology  2019 Fall BIMS 602 Biomedical Graduate Education and Research  2019 Fall VIPB 1 Clinical Scientific Presentations  2019 Fall VIPB 1 Clinical Paper Presentations  2019 Fall VIBS 927 Laboratory Medicine  2019 Fall VIBS 936 Vets in Society Paper Pap | 2018 Total | Lecture=49.5        | hours; To   | otal Lab TA=16 ho                       | ours  |                                      |       |    |
| Pall   |            | Spring &<br>Summer& | VTPB        | Clinical                                |       |                                      | 118   | 0  |
| Biomedical Graduate Education and Research   Scientific Presentations  | 2019       | Spring              |             |   | 141   |                                      | 0     | 6  |
| Pall   VIBS   Pall   VIBS   Pall   VIBS   Pall   VIBS   Pall      | 2019       | Fall                |             | Biomedical<br>Graduate<br>Education and | 31    | Successful<br>Scientific             | 1     | 0  |
| 2019 Total Lecture=121 hours; Total Lab TA= 18 hours           2020         Spring & Spring & Summer & 940         Clinical Diagnostics         114         Small group discussion         127.9           2020         Fall         VTPB Olinical Laboratory Laboratory Medicine         159         Hematology, cytology, and urinalysis         0           2020         Fall         VIBS Vets in Society 159         Resident panel         1           2020         Fall         N/A         Veterinary Intern Skills Laboratories         Cytology, and ProCyte Dot Plot Interpretation           2020         Fall         VTHT Veterinary Interpretation         16         Blinn A College, Bryan, TX           2020 Total Lecture=135.9 hours; Total Lab TA= 12 hours         2020 Total Lecture=135.9 hours; Total Lab TA= 12 hours  | 2019       | Fall                |             | Laboratory                              | 141   | cytology, and                        | 1     | 12 |
| Spring & Spring & Summer & 940   Diagnostics   114   Small group discussion   127.9  | 2019       | Fall                |             | Vets in Society                         | 159   |                                      | 1     | 0  |
| Summer & Fall  2020 Fall VTPB Clinical Laboratory Cytology, and Urinalysis  2020 Fall VIBS Vets in Society 159 Resident Panel  2020 Fall N/A Veterinary Intern Skills Laboratories  2020 Fall VTHT Veterinary Interpretation  2020 Fall VTHT Veterinary Interpretation Interpretation  2020 Fall VTHT Veterinary Clinical Pathology Bryan, TX  2020 Total Lecture=135.9 hours; Total Lab TA= 12 hours  | 2019 Total | Lecture=121         | hours; To   | tal Lab TA= 18 ho                       | ours  |                                      |       |    |
| 927 Laboratory Medicine  VIBS 936  Vets in Society 159 Resident panel  ProCytology, and panel  N/A  Veterinary Intern Skills Laboratories  ProCyte Dot Plot Interpretation  ProCyte Dot Plot Interpretation  VTHT ProCyte Dot Plot Interpretation  College, Bryan, TX  2020 Total Lecture=135.9 hours; Total Lab TA= 12 hours  | 2020       | Summer              |             |   | 114   |                                      | 127.9 | 0  |
| 936 panel  2020 Fall N/A Veterinary 10 Hematology, Cytology, and ProCyte Dot Plot Interpretation  2020 Fall VTHT Veterinary 16 Blinn 4 College, Bryan, TX  2020 Total Lecture=135.9 hours; Total Lab TA= 12 hours  | 2020       | Fall                |             | Laboratory                              | 159   | cytology, and                        | 0     | 12 |
| Intern Skills Laboratories  ProCyte Dot Plot Interpretation  ProCyte Dot Plot Interpretation  ProCyte Dot Plot Interpretation  College, Pathology  ProCyte Dot Plot Interpretation  4  College, Bryan, TX  2020 Total Lecture=135.9 hours; Total Lab TA= 12 hours  | 2020       | Fall                |             | Vets in Society                         | 159   |                                      | 1     | 0  |
| 2020 Fall VTHT Veterinary 16 Blinn 4 College, Bryan, TX  2020 Total Lecture=135.9 hours; Total Lab TA= 12 hours  | 2020       | Fall                | N/A         | Intern Skills                           | 10    | Cytology, and<br>ProCyte Dot<br>Plot | 3     | 0  |
|  | 2020       | Fall                |             | Clinical                                | 16    | Blinn<br>College,                    | 4     | 0  |
|  | 2020 Total | Lecture=135         | .9 hours; 1 | Total Lab TA= 12 I                      | hours |                                      |       |    |
| 2021 Spring VTPB Clinical 44 Small group 57.5 940 Diagnostics discussion   | 2021       | Spring              | VTPB<br>940 | Clinical<br>Diagnostics                 | 44    | Small group discussion               | 57.5  |    |

# **Teaching Evaluation**

| Course Name | Student comments |
|-------------|------------------|
|-------------|------------------|

| VTPB 940    |
|-------------|
| Clinical    |
| Diagnostics |

Dr Chu did an awesome job with us, really teaching us important concepts and staying relaxed and keeping us focused. She is very smart and kind.

You're doing great! I learned a good deal.

She was a kind and considerate teacher who was very concerned about student learning. Always helpful and patient with us.

Dr. Chu was very helpful and tried to give us a good overview of hematology and cytology. I liked that she showed us pictures and wrote on the board as we went over topics.

helped me develop a logical problem-solving approach. The rotation was organized and provided the student with a learning experience. Overall i feel like a learned a lot and acquired a lot of knowledge. Rounds were fantastic and i acquired a lot of knowledge through

It is apparent that she is very interested in pathology. She is very intelligent and a good teacher.

Enjoyed the teachings on the white board! Sometimes it was unclear what you were looking I feel more comfortable with hematology and urinalysis

could explain things further.

I enjoyed your teaching style.

Dr. Chu provided the most effective explanation of acid-base in relation to anion gap I have ever heard and I will carry it with me through the rest of clinics with a much better

Dr. Chu is very knowledgable. She is also friendly and easy to approach with questions. The only thing she taught us that was slightly confusing was acid-base status. I felt like I understood it before this rotation, but the way that information was taught made the subject confusing.

You are awesome and very smart!

She was very patient and an excellent teacher. I really appreciated how she would take the time in class to work through things that she knew we were struggling with.

You are very personable and interactive. I enjoyed learning from you!

Extra emailed material was very helpful, especially when we went over it together.

#### **INNOVATIVE TEACHING:**

2018-present

Founder of the cytology teaching social media page 'Vet Clin Path Resident'

 Established Facebook and Instagram account to innovatively teach cytology to veterinary students and veterinarians. Accumulated over 17,000 followers since 2018. Available at <a href="http://www.instagram.com/vet.clin.path.resident/">http://www.instagram.com/vet.clin.path.resident/</a>

2023-present

Founder of the 'WYD Database'

Built a free, searchable, easy-to-use platform that includes all what's your diagnosis (WYD) articles published in Veterinary Clinical Pathology since 2008: <a href="https://vetclinpath.notion.site/vetclinpath/f5cce72fe6524c4b8511162f0f2fe6ac?v=ef3da7714cf94f9ab15822e961eb5850">https://vetclinpath.notion.site/vetclinpath/f5cce72fe6524c4b8511162f0f2fe6ac?v=ef3da7714cf94f9ab15822e961eb5850</a>

#### RESIDENT/INTERN TRAINING RESPONSIBILITIES:

| 2022-2023 | General Pathology Rounds – Hemostasis (Anatomic pathology residents; 1 contact hour) |
|-----------|--|
| 2022-2023 | Capstone Experience – Penn Vet Diagnostic Laboratories (Penn Vet; 1 contact hour)    |
| 2022-2023 | Student Faculty Networking Program - Cytology experience (Penn Vet; 4 contact hours) |
| 2021-2023 | Clinical Pathology Journal Club (Texas A&M University; 3 contact hours)              |

| 2021-2023 | Clinical Pathology Elective Rotation (9 CSAM and external interns and residents; 146 contact hours)                   |
|-----------|---|
| 2021-2023 | Monthly clinical pathology rounds (CSAM and Pathobiology interns and residents; 6 contact hours, 2 preparation hours) |
| 2021-2023 | Clinical Pathology Journal Club (Tufts University and University of Florida; 20 contact hours)                        |

# STUDENT TRAINING/MENTORING:

# **Predoctoral**

| 2024-Present | Kimberly Archbold, PhD student, University of Georgia |
|--------------|---|
| 2020-2024    | Ariana Cherry, PhD student, Texas A&M University      |

# **Postdoctoral**

| 2023-Present | Dr. Dion Dewanada, veterinary clinical pathology resident, University of Illinois |
|--------------|---|
| 2022-Present | Dr. Samuel Neal, veterinary clinical pathology resident, Ohio State University    |
| 2022         | Dr. Jaspreet Kaur, veterinary clinical pathology resident, Cornell University     |
| 2022         | Dr. Brittany Rasche, anatomic pathology resident, North Carolina State University |
| 2021-Present | Dr. Zi-An Yu, veterinary clinical pathology resident, Purdue University           |
| 2021         | Dr. Wei-Ming Su, PAVE program student, Louisiana State University                 |

# **STUDENT ORGANIZATIONS:**

| 2024-Present | Faculty advisor, Taiwanese Student Association, TAMU                             |
|--------------|--|
| 2022-2023    | Faculty advisor, Student-Faculty Networking Program, Penn Vet                    |
| 2022-2023    | Faculty advisor, Association of Asian Veterinary Medical Professionals, Penn Vet |
| 2022-2023    | Faculty advisor, Taiwanese Student Association, UPenn                            |
| 2019         | Vice Present, CVM Postdoctoral Association (PDA), TAMU                           |
| 2015         | Secretary, Taiwanese Student Association, TAMU                                   |