

# CURRICULUM VITAE

Christine J. Picard

## BIBLIOGRAPHICAL INFORMATION

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### Academic Rank

Assistant Professor, Department of Biology

### Education

Degree	Institution	Date Degree Granted
B.Sc.	University of New Brunswick Biology/Chemistry	2000
M.Sc.	University of Toronto Chemistry (Organic)	2002
Ph.D.	West Virginia University Biology	2010

### Positions/Employment

Indiana University Purdue University Indianapolis, Indianapolis Assistant Professor, Department of Biology	2011-present
Indiana University Purdue University Indianapolis, Indianapolis Associate Director, Forensic & Investigative Sciences Program	2018-present
Indiana University Purdue University Indianapolis, Indianapolis Graduate Program Coordinator, Forensic & Investigative Sciences Program	2011-2015
Texas A&M University, College Station, TX Postdoctoral Research Associate, Department of Entomology [Advisor: Dr. Aaron M. Tarone]	2010-2011
West Virginia University, Morgantown, WV PhD Student, Department of Biology [Advisor: Dr. Jeffrey D. Wells]	2005-2010
Affinium Pharmaceuticals, Toronto, Canada Medicinal Chemist	2002-2005
University of Toronto, Toronto, Canada MSc Student, Chemistry [Advisor: Dr. Andrei K. Yudin]	2000-2002

### Current Professional Organization Memberships

North American Forensic Entomology Association  
European Association of Forensic Entomology  
Entomological Society of America

American Academy of Forensic Scientists  
Midwestern Association of Forensic Scientists

## HONORS AND AWARDS

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### External Sources

- (2012) Entomological Society of America International Travel Award (\$3000)
- (2010) Best PhD Student Presentation (NAFEA)
- (2008) Smithsonian Institute Samuel Wendell Williston Diptera Research Award (\$1615)
- (1996) Rotary Club Scholarship (\$1000)
- (1996) Governor-General Award
- (1996) Josten's Ring of Excellence

### Internal Sources

- (2016) IUPUI Trustees Teaching Award (\$2500)

### West Virginia University (2005-2010)

- WVU Dissertation Fellowship (\$6000)
- WVU HERF Supplemental Teaching Fellowship (\$4000)
- WVU Doctoral Student Research Award (\$1200)
- WVU Leah Williams Graduate Student Fellowship (\$800)
- WVU Graduate Travel Awards (\$2000)
- Robert E. Stitzel Graduate Student Travel Award (\$1000)

### University of Toronto (2000-2002)

- U of T Open Fellowship (\$5000)

### University of New Brunswick (1996-2000)

- UNB Entrance Scholarship

## RESEARCH AND SCHOLARSHIP

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### Grants (External) Funded

Citizens Energy: Taste and odor compounds in Eagle Creek reservoir: Developing spatial and temporal tools for early identification of antecedent conditions and problem microbial blooms. PI: Gregory Druschel (Earth Sciences, IUPUI), Co-PIs: Christine J Picard, Lin Li (Earth Sciences), Pierre Andre-Jacynth (Earth Sciences). \$374,211. 2017-2020.

Department of Defense: *Improving knowledge on the genetic basis of human physical appearance for human identification through next generation sequencing technologies*. PI: Susan Walsh, Co-PI: Christine J. Picard. 2015-2016. Instrumentation Grant (MiSeq). \$146,450.

National Institute of Justice 2013-DN-BX-K019: *Species and age determination of blow fly pupae based upon headspace analysis*. Award: \$197,491, PI: John Goodpaster (IUPUI), Co-PI: Christine J. Picard, 2014-2016.

National Institute of Justice 2012-DN-BX-K024: *Genomic tools to reduce error in PMI estimates derived from entomological evidence*. Award: \$496,661, PI: Aaron Tarone (Texas A&M University), Co-PIs: Christine J. Picard, Sing-Hoi Sze, Co-PI (Texas A&M University), 2013-2015.

## Grants (Internal Sources)

### Funded

OVCR International Research Development Fund (IRDF) 2018 (\$7,786)  
 CTSI Core Pilot Grant 2018 (\$9,934)  
 BetaHatch Contract 2018 (\$11,098.47)  
 Research Support Funds Grant (RSFG) 2017 (\$33,814)  
 Multidisciplinary Undergraduate Research Initiative 2017 (\$2,000)  
 School of Science Near Miss Funding 2016 (\$3,400)  
 School of Science Summer Faculty Grant 2016 (\$10,400)  
 School of Science Summer Faculty Grant 2015 (\$10,400)  
 School of Science Technology Fund 2015 (\$50,049)  
 School of Science Technology Fund 2014 (\$13,386)  
 OVCR EMPOWER Grant 2014 (\$5000)  
 Purdue Research Foundation International Travel Grant 2014 (\$760)

## Publications

### Referred Journal Articles (\*mentored students)

1. \*GM Dembinski, **CJ Picard**. Methyl-RADseq: a novel method for the discovery of candidate DNA markers for age prediction. *Electrophoresis*. (*Under review*).
2. \*CG Owings, C Skaggs, W Sheriff, N Manicke, **CJ Picard**. Chemical assay for the detection of vertebrate fecal metabolites in adult blow flies (Diptera: Calliphoridae). *Environmental Entomology* (*Accepted*).
3. \*GM Dembinski, C. Sobieralski Jr., **CJ Picard**. (2018) "Estimation of the number of contributors of theoretical mixture profiles based on allele counting: Does increasing the number of loci increase success rate of estimates?" *Forensic Science International: Genetics*. 33:24-32.
4. **CJ Picard**, JD Wells, \*A Ulyot, K Rognes. (2017) "Amplified fragment length polymorphism analysis supports the valid species status of *Lucilia caesar* and *L. illustris* (Diptera: Calliphoridae)." *Forensic Science Research* DOI: 10.1080/20961790.2017.1398286
5. \*GM Dembinski, **CJ Picard**. (2017) Effects of microbial DNA on human DNA profiles generated using the PowerPlex® 16 HS system. *Journal of Forensic and Legal Medicine*, 52:208-214.
6. W Kranz, C Carroll, D Dixon, **CJ Picard**, JV Goodpaster. (2017) "Optimization of total vaporization solid-phase microextraction (TV-SPME) for the determination of lipid profiles of *Phormia regina*, a forensically important blow fly species." *Analytical and Bioanalytical Chemistry* 409 (27): 6349-6357.

7. W Kranz, C Carroll, D Dixon, JV Goodpaster, **CJ Picard**. (2017) "Factors affecting species identifications of blow fly pupae based upon chemical profiles and multivariate statistics." *Insects* 8(2): 43-57. (*Invited special edition contribution*).
8. \*AA Andere, RN Platt II, DA Ray, **CJ Picard** (2016) "Genome sequence of *Phormia regina*: Implications for medical, veterinary and forensic research." *BMC Genomics* (17) 1-17.
9. \*CG Owings, **CJ Picard**. (2015) "Spatial and temporal diversity of carrion beetles in Indiana". *Proceedings of the Indiana Academy of Sciences*, 124: 124-128.
10. JK Tomberlin...**CJ Picard**, *et al.* (+ 54 authors). (2015) "Protecting the environment through insect farming as a means to produce protein for use as livestock, poultry, and aquaculture feed". *Journal of Insects as Food and Feed* 1(4): 307-309.
11. \*AM Salam, FK Adham, **CJ Picard** (2015) "Survey of the genetic diversity of forensically important *Chrysomya* blow flies from Egypt." *Journal of Medical Entomology*, 1-9.
12. \*KJ Faulds, JD Wells, **CJ Picard** (2014) "Verification of AFLP kinship methods by sequencing." *Forensic Science International* 245: 58-62.
13. \*GM Dembinski, **CJ Picard** (2014) "Evaluation of the IrisPlex DNA-based eye color prediction tool the United States." *Forensic Science International: Genetics*. 9:111-117. #\*GM Dembinski, **CJ Picard** (2016) "Corrigendum to Evaluation of the IrisPlex DNA-based eye color prediction assay in a United States population." *Forensic Science International: Genetics* (2014) 111-117 *Forensic Science International: Genetics*: 211-213.
14. **CJ Picard** (2013) "First record of *Chrysomya megacephala* Fabricius (Diptera: Calliphoridae) in Indiana, U.S.A." *Proceedings of the Entomological Society of Washington* 115: 265-267.
15. **CJ Picard**, K DeBlois, F Tovar, J Bradley, JS Johnston, AM Tarone (2013) "Increasing precision in PMI estimates: What's sex got to do with it?" *Journal of Medical Entomology* 50: 425-431.
16. **CJ Picard**, JD Wells (2012) "A test for carrion fly full siblings: a tool for detecting postmortem movement of a corpse." *Journal of Forensic Sciences* 57: 535-538.
17. **CJ Picard**, JS Johnston, AM Tarone (2012) "Genome sizes of forensically relevant Diptera." *Journal of Medical Entomology* 49: 192-197.
18. **CJ Picard**, MH Villet, JD Wells (2012) "Amplified fragment length polymorphisms confirms reciprocal monophyly in *Chrysomya putoria* and *C. chloropyga*: A correction of reported shared mtDNA haplotypes. *Medical and Veterinary Entomology* 26: 116-119.

19. AM Tarone, **CJ Picard**, C Spiegelman, DR Foran (2011) "Population and temperature effects on *Lucilia sericata* (Diptera: Calliphoridae) body size and minimum development time." *Journal of Medical Entomology* 1062-1068.
20. **CJ Picard**, JD Wells (2010) "The population genetic structure of North American *Lucilia sericata* (Diptera: Calliphoridae) and the utility of genetic assignment methods for reconstruction of postmortem corpse relocation." *Forensic Science International* 195-63-67.
21. PB Sampson, **CJ Picard**, S Handerson, TE McGrath, M Domagala, A Leeson, V Romanov, DE Awrey, D Thambipillai, E Bardounotis, N Kaplan, JM Berman, HW Pauls (2009) "Spiro-naphthyridinone piperidines as inhibitors of *S. aureus* and *E. coli* enoyl-ACP reductase (FabI)." *Bioorganic and Chemistry Letters* 19: 5355-5358.
22. **CJ Picard**, JD Wells (2009) "Survey of the genetic diversity of *Phormia regina* (Diptera: Calliphoridae) using amplified fragment length polymorphisms." *Journal of Medical Entomology* 46: 664-670.
23. T Siu, **CJ Picard**, AK Yudin (2005) "Development of electrochemical processes for nitrene generation and transfer." *Journal of Organic Chemistry* 70: 932-937.
24. S Yetka, LB Krasnova, B Mariampillai, **CJ Picard**, G Chen, S Pandiaraju, AK Yudin (2004) "Preparation and catalytic application of partially fluorinated binaphthol ligands." *Journal of Fluorine Chemistry* 125-517-525.
25. A Caiazzo, S Dalili, **CJ Picard**, M Sasaki, T Siu, AK Yudin (2004) "New methods for the synthesis of heterocyclic compounds." *Pure & Applied Chemistry* 105:603-613.

#### Book Chapters

1. **CJ Picard**, JJ Parrott, \*J Whale (2015). "Population genetics and molecular evolution of carrion-associated arthropods" in: *Carrion Ecology, Evolution and Their Applications*, ME Benbow, JK Tomberlin and AM Tarone Eds., Taylor & Francis, London UK.
2. AM Tarone, **CJ Picard**, B Singh (2015). "Molecular biology in forensic entomology" in: *International Dimensions and Frontiers in Forensic Entomology*, JK Tomberlin, ME Benbow, AM Tarone, Eds. Taylor & Francis, London UK.
3. T Sui, **CJ Picard**, AK Yudin (2003) "Electrochemical nitrogen transfer reactions for organic synthesis" in: *Mechanistic and Synthetic Aspects of Organic and Biological Electrochemistry*, DG Peters, J Simonet, H Tanaka, Eds., The Electrochemical Society Inc., Pennington, New Jersey, pp. 105-108.

#### **Presentations and Posters (#invited, \*oral presentation, @mentored students, presenter)**

1. **\*#CJ Picard**. "Blow fly genomics: Past, present, and future. International Congress of Entomology, Orlando, FL, September 24-29<sup>th</sup>, 2016.

2. \*[@#CG Owings](#), **CJ Picard**. “Mediators of population genetic structure in Indiana blow flies (Diptera: Calliphoridae). International Congress of Entomology, Orlando, FL, September 24-29<sup>th</sup>, 2016.
3. \*[AM Tarone](#), ML Pimsler, [@AA Andere](#), CD Jones, M Scott, JK Tomberlin, S-H Sze, **CJ Picard**. “This *transformer* is not like the other: Distinct features of a sex determination gene in a blow fly with a distinct sex determination mechanism.” Entomological Society of America Annual Meeting, Minneapolis, MN. November, 2015.
4. \*[JJ Parrott](#), E Ramos, C Spiegelman, ML Pimsler, [@CG Owings](#), **CJ Picard**, AM Tarone. “Artificial selection on *Cochliomyia macellaria* (Fabricius; Diptera: Calliphoridae) development: Ecological, Evolutionary, and Forensic Applications.” North American Forensic Entomology Association/Society for Wildlife Forensics Joint Meeting, Missoula, MT. June 24-26<sup>th</sup>, 2015.
5. \*[@CG Owings](#), [@L Sercher](#), [@A Salamone](#), AM Tarone, **CJ Picard**. “Assessment of the genetic variation among blow fly populations exposed to artificial selection pressures.” North American Forensic Entomology Association/Society for Wildlife Forensics Joint Meeting, Missoula, MT. June 24-26<sup>th</sup>, 2015.
6. \*[@AA Andere](#), E Ramos, J Parrott, [@J Whale](#), AM Tarone, **CJ Picard** “Analysis of genetic variation in the development rate of the blow fly *Cochliomyia macellaria* (Diptera; Calliphoridae) based on their genomic sequences”. North American Forensic Entomology Association/Society for Wildlife Forensics Joint Meeting, Missoula, MT. June 24-26<sup>th</sup>, 2015.
7. [@AA Andere](#), **CJ Picard** “Sex-determining pathway analysis of the monogenic blow fly *Chrysomya rufifacies* (Diptera: Calliphoridae) using next-generation sequencing technologies. IUPUI Women in STEM Research Poster Session, March 27<sup>th</sup>, 2015. Indianapolis, IN.
8. [@GM Dembinski](#), **CJ Picard** “DNA Phenotyping: Predicting pigmentation traits in a United States population.” IUPUI Women in STEM Research Poster Session, March 27<sup>th</sup>, 2015. Indianapolis, IN.
9. [@AM Salam](#), **CJ Picard** “AFLP-based analysis of *Chrysomya megacephala* population structure”. Indiana Academy of Sciences 130<sup>th</sup> Annual Meeting, March 21<sup>st</sup>, 2015. Indianapolis, IN.
10. [@AA Andere](#), **CJ Picard** “Sex-determining pathway analysis of the monogenic blow fly *Chrysomya rufifacies* (Diptera: Calliphoridae) using next-generation sequencing technologies. Indiana Academy of Sciences 130<sup>th</sup> Annual Meeting, March 21<sup>st</sup>, 2015. Indianapolis, IN.
11. [@GM Dembinski](#), **CJ Picard** “DNA Phenotyping: Predicting pigmentation traits in a United States population.” Indiana Academy of Sciences 130<sup>th</sup> Annual Meeting, March 21<sup>st</sup>, 2015. Indianapolis, IN.
12. [@AA Andere](#) “De novo genome assembly of *Phormia regina*”. Entomological Society of America, Portland, OR. Nov 2014.

13. \*ML Pimsler, S-H Sze, CD Jones, M Scott, S Fu, **CJ Picard**, @AA Andere, JK Tomberlin, AM Tarone. Males are from Mars, females are from Venus... and Earth? Adventures in sex determination and transcriptomics. Entomological Society of America Annual Meeting, Portland, OR November 16-19<sup>th</sup>, 2014.
14. @AA Andere, @CG Owings, J Parrott, E. Ramos, AM Tarone, @J Whale, **CJ Picard** "Genetic variation in developmental time studied on genomic sequences of 3 geographically distinct populations of the blow fly *Cochliomyia macellaria* (Diptera: Calliphoridae). 12<sup>th</sup> Annual Ecological Genomics Symposium. Kansas City, MO.
15. **CJ Picard** "Predicting a phenotype from a genotype: Using carrion flies as a model organism to predict forensically relevant traits. Midwestern Association of Forensic Scientists, St. Paul, Minnesota October 8-10<sup>th</sup>, 2014.
16. GM Dembinski, **CJ Picard** "DNA Phenotyping: Predicting pigmentation traits in a United States population." 25<sup>th</sup> Annual International Symposium on Human Identification. Phoenix, AZ.
17. \*@AA Andere, **CJ Picard** *De novo genome assembly of Phormia regina (Diptera: Calliphoridae)*. North American Forensic Entomology Association Annual Meeting, St. Petersburg, FL July 15-17<sup>th</sup>, 2014.
18. \*\***CJ Picard** *Selection for optimal phenotypes using genomics*. Workshop on Insect Sensing, China Agricultural University, China, June 13<sup>th</sup>, 2014.
19. \*\***CJ Picard** *Selection for optimal phenotypes using genomics*. Symposium of Sino-America on application of insect-microorganisms to treat organic waste materials. Zibo, China, June 12<sup>th</sup>, 2014.
20. \*\***CJ Picard** *Selection for optimal phenotypes using genomics*. Phoenix Black Soldier Fly Rearing Facility Workshop, Xi'an, China. June 11<sup>th</sup>, 2014.
21. \*\***CJ Picard** *Genetic selection for optimal protein production and biodegradation phenotypes*. International Symposium on Organic Waste Bioconversion Mechanisms and Applications by Microbes and Insects, Wuhan, China. June 8<sup>th</sup>, 2014.
22. \*@KG Smolar, **CJ Picard**, A Dagnon (2014) *Investigating the order of the dual examination of touch prints via fingerprinting and DNA analyses*. American Academy of Forensic Sciences (AAFS) Annual Meeting, Seattle, WA February 17-22<sup>nd</sup>.
23. \***CJ Picard**, AA Andere, J Parrott, M Pimsler, E Ramos, AM Tarone, J Whale (2014) *How genomics is advancing the field of forensic entomology*. American Academy of Forensic Sciences (AAFS) Annual Meeting, Seattle, WA February 17-22<sup>nd</sup>.
24. \*\***CJ Picard** (2013) *The temporal and spatial population structure of Phormia regina (Diptera: Calliphoridae)*. The Entomological Society of America Annual Meeting, Austin, TX November 10-14<sup>th</sup>.
25. \*E Ramos, **CJ Picard**, AM Tarone (2013) *Selecting for blow fly development forensically important Cochliomyia macellaria*. The Entomological Society of America Annual Meeting, Austin, TX November 10-14<sup>th</sup>.

26. \*AM Tarone, **CJ Picard**, L Ellis, JS Johnston (2013) *Consequences of genome size variation in forensic entomology*. The Entomological Society of America Annual Meeting, Austin, TX November 10-14<sup>th</sup>.
27. \*AA Andere, **CJ Picard** (2013) *Sex determination in Chrysomya rufifacies (Diptera: Calliphoridae)*. 2<sup>nd</sup> Annual Department of Biology Retreat, Bradford Woods, IN, October 2013.
28. J Whale, **CJ Picard** (2013) *Population of the blow fly Phormia regina (Meigen)*. 2<sup>nd</sup> Annual Department of Biology Retreat, Bradford Woods, IN, October 2013.
29. GM Dembinski, **CJ Picard** (2013) *Evaluation of the IrisPlex DNA-based eye color prediction tool on a North American population*. 2<sup>nd</sup> Annual Department of Biology Retreat, Bradford Woods, IN, October 2013.
30. \*AA Andere, **CJ Picard** (2013) *De novo genome assembly of Phormia regina (Diptera: Calliphoridae)*. North American Forensic Entomology Association (NAFEA) Annual Meeting, Dayton, OH, July 16-19<sup>th</sup>.
31. \*GM Dembinski, **CJ Picard** (2013) *Evaluation of the IrisPlex DNA-based eye color prediction tool in the United States*. American Academy of Forensic Sciences (AAFS) Annual Meeting, Washington, D.C. February 18-23<sup>rd</sup>.
32. GM Dembinski, **CJ Picard** (2012) *Validation of IrisPlex in the United States: a DNA-based tool for the prediction of eye color*. Midwestern Association of Forensic Scientists (MAFS) 2012 Meeting, Milwaukee, WI September 24-28<sup>th</sup>
33. J. Espino, **CJ Picard** (2012) *The effect of maggot mass generated temperature on blow fly development*. IUPUI Research Day, August 2012.
34. \***CJ Picard** (2012) *A Novel, Universal DNA-based Method for Full Sibship Detection of Flies for Inferring Postmortem Movement of a Corpse*. Midwestern Association of Forensic Scientists 2012 Meeting, Milwaukee, WI September 24-28<sup>th</sup>
35. \*\***CJ Picard** (2012) *Population Genetics in Forensic Entomology*. Invited symposia to the XXIV International Congress of Entomology, Daegu, South Korea August 19-25<sup>th</sup>.
36. \***CJ Picard** (2012) *Review of recent forensic entomological literature*. 10th Annual Meeting of the North American Forensic Entomology Association, Las Vegas, NV July 17-19<sup>th</sup>.
37. \***CJ Picard**, F Tovar, K DeBlois, JS Johnston, AM Tarone (2012) *Applications of genome sizes in forensic entomology*. 9th Annual Meeting of the European Association of Forensic Entomology, Torun, Poland April 16-18<sup>th</sup>.
38. **CJ Picard**, F Tovar, K DeBlois, JS Johnston, AM Tarone (2011) *Increasing precision in  $PMI_{MIN}$  estimates: What's sex got to do with it?* North American Forensic Entomology Association (NAFEA) 9th Annual Conference, College Station, TX July 21-22<sup>nd</sup>.



39. **CJ Picard**, JS Johnston, AM Tarone (2011) *Genome sizes of forensically relevant Diptera*. North American Forensic Entomology Association (NAFEA) 9th Annual Conference, College Station, TX July 21-22nd.
40. \***CJ Picard**, JD Wells (2010) *Fine spatial and temporal population structure of Phormia regina*. North American Forensic Entomology Association (NAFEA) 8th Annual Conference, Windsor, Ontario July 7-9th. Winner: Best PhD Student Presentation
41. @**R Viradia**, **CJ Picard**, JD Wells (2010) *Use of mitochondrial sequence data for the verification of calculations of kinship using a dominant genotype*. West Virginia Capitol Research Day, Charleston, West Virginia January 26th.
42. \***CJ Picard**, JD Wells (2009) *Detecting a needle in a haystack: A novel, universal DNA-based method for full sibling detection*. North American Forensic Entomology Association (NAFEA) 7th Annual Conference, Miami, FL July 16-17th.
43. \***CJ Picard**, JD Wells (2009) *An Insect DNA-based Method for the Detection of Post Mortem Transportation of a Corpse*. European Association for Forensic Entomology (EAFE) 7th Annual Conference, Uppsala, Sweden, June 9-12th.
44. \***CJ Picard**, JD Wells (2009) *A Universal Method for the Detection of Full Siblings*. Research Horizons Day, West Virginia University, Morgantown, WV, March 26th.
45. \***CJ Picard**, JD Wells (2008) *The application of population genetic assignment tests to forensic entomological questions*. North American Forensic Entomology Association (NAFEA) 6th Annual Conference, Atlantic City, NJ June 8-10th.
46. \***CJ Picard**, JD Wells (2008) *Genetic Diversity of Phormia regina (Diptera: Calliphoridae) using Amplified Fragment Length Polymorphisms*. Research Horizons Day, West Virginia University, Morgantown, WV, March 13th.
47. \***CJ Picard**, JD Wells (2007) *Genetic Diversity of Phormia regina (Diptera: Calliphoridae) using Amplified Fragment Length Polymorphisms*. North American Forensic Entomology Association (NAFEA) 5th Annual Conference, Simon Fraser University, BC July 11-14th.
48. **CJ Picard**, JD Wells (2007) *Validation of a new and improved human genotyping multiplex containing 13 CODIS loci, amelogenin and 3 new additional loci*. American Association of Forensic Sciences (AAFS) Annual Conference, San Antonio, TX. February 20-24th.
49. \***CJ Picard**, JD Wells (2006) *Preservation of necrophagous larvae for morphological and DNA analysis*. North American Forensic Entomology Association (NAFEA) 4th Annual Conference, Purdue University, IN July 12-15th.
50. \***CJ Picard**, JD Wells (2006) *The use of DNA for species identification in entomology*. West Virginia Entomological Society Winter Meeting, North Bend, WV January 5th.
51. **CJ Picard**, D Clark (2000) *Deletional Analysis of the ade5 gene in Drosophila melanogaster*. Maritime Undergraduate Biology Conference, Mount Allison University, Sackville, New Brunswick March 4-5th.

Special Undergraduate Freshman Biology Lab Poster Presentations (2015-2016):

52. K Marrs “Annotation of the *transformer* gene in *Phormia regina*” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2016 (*poster*).
53. R Gorden & J Strobel “Gene prediction and annotation of the *msl-1* gene in *Phormia regina*” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2016 (*poster*).
54. S Stoltz & A Baker “Analyzing the *sexlethal* gene in *Phormia regina*” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2016 (*poster*).
55. A Schmidt & M Smith “Gene structure and function of *msl-2* in *Phormia regina*” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2016 (*poster*).
56. M Miller & P Shields “*Doublesex* gene prediction and function in the blow fly *Phormia regina*” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2016 (*poster*).
57. A Reardon & T Strobel “Analysis of *sexlethal* gene in *Phormia regina*” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2016 (*poster*).
58. E Atallah & L Lakstins “*Male sex lethal 3 (msl-3)* gene prediction and function analysis in the blow fly *Phormia regina*” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2016 (*poster*).
59. K Hawbaker & I Fernandez “*Phormia regina intersex* gene: does it determine fly sex?” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2016 (*poster*).
60. H Kondeti & K Gill “Comparison of the *male-specific lethal (msl-3)* gene and protein sequences in *Phormia regina*” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2016 (*poster*).
61. N Devanathan V Gill “An analysis of *maleless (mle)* structure and function in *Phormia regina* through bioinformatics modeling tools” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2016 (*poster*).
62. R Amjad, J Rager & S Todd “The importance of a sex-linked indel in the *tra-2* gene in *Phormia regina* in determining PMI” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2016 (*poster*).
63. J Weiss & A Kell “Gene prediction and structure annotation of the *intersex* gene in blow flies *Lucilia cuprina* and *Lucilia sericata*” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2016 (*poster*).

64. A Hunger & F Hassuneh “Gene prediction and function analysis of the *msl-1* gene of *Lucilia cuprina* and *Lucilia sericata*” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2016 (*poster*).
65. R Cadle & R Hanna “The gene function and structural analysis of *doublesex* in *Lucilia cuprina* and *Lucilia sericata*” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2016 (*poster*).
66. G Hodge, E Stout & H Flatness “*Male specific lethal 2* gene function in *Lucilia cuprina*” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2016 (*poster*).
67. K Couch & B Lane “*Mle* gene annotation and structure prediction in *Lucilia cuprina* and *Lucilia sericata*” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2016 (*poster*).
68. M Bhattraï & C Bowditch “Gene annotation and alignment of *transformer 2* gene in *Lucilia cuprina* and *Lucilia sericata*” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2016 (*poster*).
69. C Wilkins & B Hopf “The effect of *male specific lethal 2 (msl-2)* on *Cochliomyia macellaria*” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2016 (*poster*).
70. O Messenger & M Weiss “*Intersex*, in *Cochliomyia macellaria*” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2016 (*poster*).
71. B McKelvey & C Moore “*Msl-1* gene function and structure analysis on the blow fly *Cochliomyia macellaria*” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2016 (*poster*).
72. M Khalid & M Laurendine “*Maleless* gene function in segregated populations of *Cochliomyia macellaria*” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2016 (*poster*).
73. K Brewer & K Sokolowski “Gene prediction and function of the *intersex (ix)* gene in *Cochliomyia macellaria*” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2016 (*poster*).
74. B Brookshire & A Tuttle “Gene prediction and function analysis of the *msl-2* gene in the blow fly *Chrysomya rufifacies*” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2016 (*poster*).
75. A Rodriguez & C Skaggs “Sex determination genes in *Chrysomya rufifacies*: the *maleless* gene (*mle*)” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2016 (*poster*).
76. E Dougherty & N Mohr “How *intersex* gene affects sex determination in *Chrysomya rufifacies*” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2016 (*poster*).

77. E Hughes & C Lesch “Sex determination and the *msl-3* gene in *C. rufifacies*” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2016 (*poster*).
78. A Cicero “The role of *msl-1* in sex determination”. Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2016 (*poster*).
79. @K Addison, @B White, @AA Andere, P Roy, G Chism, M Vaughan, K Marrs, **CJ Picard** “Identifying sex markers in *Phormia regina* genome” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2015 (*poster*).
80. @S Losiewicz, @A Poor, @AA Andere, P Roy, M Vaughan, K Marrs, **CJ Picard** “Using bioinformatics to discover a possible sex indicator in *Phormia regina*” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2015 (*poster*).
81. @A Meyer, @J Johnson, @AA Andere, O Ononye, G Chism, M Vaughan, K Marrs, **CJ Picard** “Determination of a sex locus in *Phormia regina* genes” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2015 (*poster*).
82. @A Nafiesh, @M Runkle, @AA Andere, P Roy, G Chism, M Vaughan, K Marrs, **CJ Picard** “Identification of genetic sex markers in *Phormia regina* genome” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2015 (*poster*).
83. @K Powell, @S Ford, @AA Andere, P Roy, G Chism, M Vaughan, K Marrs, **CJ Picard** “Let’s talk about sex” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2015 (*poster*).
84. @A Pillai, @K Wadsworth, @AA Andere, O Ononye, M Vaughan, K Marrs, **CJ Picard** “Understanding the genomic differences of male and female *Phormia regina* for further application in forensic science” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2015 (*poster*).
85. @C Pratt, @A Covington, @A Duffield, @AA Andere, P Roy, M Vaughan, K Marrs, **CJ Picard** “Determination of the genetic sex marker for *Phormia regina*” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2015 (*poster*).
86. @A Reeser, @H Beers, @AA Andere, P Roy, M Vaughan, K Marrs, **CJ Picard** “Genetic sex determination in *Phormia regina*” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2015 (*poster*).
87. @J Sansone, @B Newkirk, @AA Andere, O Ononye, G Chism, M Vaughan, K Marrs, **CJ Picard** “Determining a sex marker in maggots from *Phormia regina*” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2015 (*poster*).

88. @[S Soto](#), @[A Campbell](#), @AA Andere, O Ononye, G Chism, M Vaughan, K Marrs, **CJ Picard** “Dex determining gene in *Phormia regina*” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2015 (*poster*).
89. @[D Springer](#), @[R Griebel](#), @AA Andere, P Roy, G Chism, M Vaughan, K Marrs, **CJ Picard** “Identifying sex markers in *Phormia regina*” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2015 (*poster*).
90. @[M Wickstrom](#), @[M Lanham](#), @AA Andere, O Ononye, M Vaughan, K Marrs, **CJ Picard** “Bioinformatics research: Finding a sex markers in *Phormia regina*” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2015 (*poster*).
91. @[S Wiles](#), @[H Luker](#), @AA Andere, O Ononye, G Chism, M Vaughan, K Marrs, **CJ Picard** “*Phormia regina* genome sequencing and analysis: A search for sex-linked homologs” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2015 (*poster*).
92. @[C Andrews](#), @[M Frye](#), @[J Jones](#), @AA Andere, P Roy, M Vaughan, K Marrs, **CJ Picard** “Increasing postmortem interval prediction using sex markers in *Phormia regina*” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2015 (*poster*).
93. @[E Andrews](#), @[B Bogan](#), @AA Andere, O Ononye, M Vaughan, K Marrs, **CJ Picard** “Sex differentiation in *Phormia regina*” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2015 (*poster*).
94. @[C Billingsley](#), @[S Hiett](#), @[L Martin](#), @AA Andere, O Ononye, M Vaughan, K Marrs, **CJ Picard** “*Phormia regina* sex gene investigation: Using bioinformatics to search for sex-linked genetic markers” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2015 (*poster*).
95. @[H Bozell](#), @[T Pemberton](#), @AA Andere, P Roy, G Chism, M Vaughan, K Marrs, **CJ Picard** “Sex markers in *Phormia regina*” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2015 (*poster*).
96. @[L Burke](#), @[A Avery](#), @AA Andere, O Ononye, M Vaughan, K Marrs, **CJ Picard** “Bioinformatics intro using *Phormia regina* DNA” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2015 (*poster*).
97. @[E Chang](#), @[K Turner](#), @AA Andere, P Roy, M Vaughan, K Marrs, **CJ Picard** “Genetic sex markers in *Phormia regina*” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2015 (*poster*).
98. @[A Dalde](#), @[K Knoblett](#), @AA Andere, P Roy, G Chism, M Vaughan, K Marrs, **CJ Picard** “*Phormia regina* sex marker identification” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2015 (*poster*).
99. @[A Dile](#), @[M Harvard](#), @AA Andere, O Ononye, M Vaughan, K Marrs, **CJ Picard** “Identification of sex-linked SNPs in *Phormia regina* genome” Biology K102 Honors

Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2015 (*poster*).

100. [@C Elkins](#), [@S Sizemore](#), @AA Andere, P Roy, M Vaughan, K Marrs, **CJ Picard** “Determination of genetic sex markers in *Phormia regina*” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2015 (*poster*).
101. [@M Fields](#), [@C Huber](#), @AA Andere, P Roy, G Chism, M Vaughan, K Marrs, **CJ Picard** “Using bioinformatics tools to identify sex markers in *Phormia regina*” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2015 (*poster*).
102. [@L Gore](#), [@R Long](#), @AA Andere, O Ononye, G Chism, M Vaughan, K Marrs, **CJ Picard** “Sequencing of *P. regina* to discover a sex-determining locus” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2015 (*poster*).
103. [@S Goy](#), [@K Haver](#), @AA Andere, P Roy, M Vaughan, K Marrs, **CJ Picard** “Locating a genetic sex marker in *Phormia regina*” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2015 (*poster*).
104. [@R Hamilton](#), [@S Peak](#), @AA Andere, O Ononye, G Chism, M Vaughan, K Marrs, **CJ Picard** “Determination of sex markers in *Phormia regina* for postmortem interval calculation” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2015 (*poster*).
105. [@B Hiatt](#), [@B Lewis](#), @AA Andere, O Ononye, M Vaughan, K Marrs, **CJ Picard** “Bridging the gap between bioinformatics and forensics” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2015 (*poster*).
106. [@J Hornung-Betz](#), [@C Brophy](#), @AA Andere, P Roy, G Chism, M Vaughan, K Marrs, **CJ Picard** “Identification of sex-linked markers in *Phormia regina* genome” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2015 (*poster*).
107. [@A Huls](#), [@J Boone](#), @AA Andere, O Ononye, G Chism, M Vaughan, K Marrs, **CJ Picard** “Determination of sex markers in *Phormia regina*: Introducing bioinformatics reason to freshman biology students” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2015 (*poster*).
108. [@C Lange](#), [@B Aguilar](#), @AA Andere, P Roy, M Vaughan, K Marrs, **CJ Picard** “Finding a sex marker for *Phormia regina*” Biology K102 Honors Research Poster Session, IUPUI Department of Biology, Indianapolis, IN, December 2015 (*poster*).

## Invited Seminars

1. Advancements in blow fly-derived postmortem interval estimates using 'omics-based approaches. College of Veterinary Medicine, North Carolina State University, February 2017.
2. The Plague, Shakespeare, the Hearse Song, etc.: Historical accounts of insects and death. Department of Entomology, Michigan State University, October 2016.
3. Forensic Entomology in the genomics era: how little we know with so much data. Department of Biology, West Virginia University, January 2016.
4. Forensic Entomology in the genomics era: how little we know with so much data. University of Indianapolis, October 2015.
5. From genotypes to phenotypes (and vice versa): Forensic biology in the 'omics era. Department of Biology, IUPUI, October 2015.
6. Forensic Entomology. Hanover College, IN, September 2015.
7. Forensic Entomology in the genomics era: how little we know with so much data. DePauw University, IN, September 2015.
8. Sex determination in a monogenic fly: I still haven't found what I'm looking for. Medical and Molecular Genetic Research Club, Indiana School of Medicine, IN, February, 2015.
9. Genetic selection for optimal protein production and biodegradation phenotypes. Northwest Agricultural and Forestry University, Yangling, China. June 2014.
10. Importance of understanding the genetic diversity of stratiomyids. Huazhong University, Wuhan, China June 2014.
11. Genetic selection for optimal protein production and biodegradation phenotypes. Zheijiang University, Hangzhou, China June 2014.
12. Use of genomics in bridging basic and applied research areas of forensic entomology. Purdue University, Department of Entomology, IN, February 2014.
13. Use of genomics in bridging basic and applied research areas of forensic entomology. Indiana University, Center for Computational Biology and Bioinformatics, IN, November 2013.
14. Population Genomics in non-model organisms: RAD sequencing of a large sample of a forensically important blow fly. University of Dayton, OH, Department of Biology, September 2013.
15. Molecular approaches to forensic entomology. Texas A&M University, TX, Department of Entomology, March 2011.

## **TEACHING AND CURRICULUM DEVELOPMENT**

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Indiana University Purdue University Indianapolis

Courses Taught (Undergraduate)

Forensic Biology I, FIS 402	Fall 2012- 2016
Forensic Biology I Lab, FIS 40201	Fall 2012- present
Forensic Genetics, FIS 403	Spring 2012- 2015
Forensic Genetics Lab, FIS 40301	Spring 2012- 2015
Forensic Capstone, FIS 490	Fall 2012- 2014

Courses Taught (Graduate)

Forensic Biology I, FIS 521	Fall 2012, 2015-present
Forensic Biology I Lab, FIS 52101	Fall 2012
Forensic Biology II, FIS 522	Spring 2012-2013
Forensic Biology II Lab, FIS 52201	Spring 2012-2013

Guest Lectures

Concepts of Forensic Science I, FIS 205	Fall 2012- 2014
Concepts of Forensic Science II, FIS 206	2012-present
Special Topics, BIOL 595,	Fall 2014
NextGen Genomic Analytics, INFO-636	Fall 2015
Forensic Capstone, FIS 490	Fall 2015
Honors Concepts of Biology I, BIOL 102	Fall 2015

Texas A&M University

Guest Lectures

Genetics I, GENE 481, Spring 2011
Introduction to Forensic and Investigative Sciences, FIVS 205, Spring 2011
The Science of Forensic Entomology, FIVS 431, Fall 2010
Population and Ecological Genetics, GENE 412, Fall 2010

West Virginia University

Laboratory Courses Taught

The Living Cell, BIOL 219, Fall 2007-2009
Forensic Biology Laboratory, FIS 401, Spring 2009-2010

Guest Lectures

Forensic Entomology, ENTO 401, Fall 2008
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**ADVISING AND MENTORING**

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IUPUI

Graduate Students Mentored

Ioanna Kolsidou, MS, Fall 2017-present
Sarah Lewis, MSFS, Fall 2016-present
Anne Andere, PhD, Fall 2014-present
Charity Owings, PhD, Fall 2014-present
Gina Dembinski, PhD, Fall 2013-2017
Abeer Mohsen Salam, PhD (visiting), 2013-2015
Lauren Weidner, PhD (visiting), Summer 2015
John Whale, MS, Spring 2013-2015
Kevin Smolar, MSFS, Fall 2012-2014



Anne Andere, MS, Fall 2012-2014  
Lisa Beach, MSFS, 2010-2014  
Gina Dembinski, MSFS, 2011-2013  
Megan Carter, MSFS, 2010-2012

Graduate Student Committees

Elizabeth Osadczuk, MS, 2011-2013  
Danika Tumbleson, MS, 2012-2014  
Dana Bors, PhD, 2011-2015  
William Kranz, PhD, 2013-2016  
Ryan Eller, PhD, 2015-present  
Charanya Muralidharan, MS, 2015-2016  
Jordan Ash, MSFS, 2015-2016  
Wesli Kay Stubbs, MSFS, 2016-2017  
Brittany Koon, MS, 2015-2016  
Mirna Ghemrawi, 2016-present

Undergraduate Research

Whitney Walker 2012  
Ashley Price 2012  
Misty Day 2012  
Olga Vitvitskaya 2012  
Kelsie Faulds 2012  
Jessica Espino 2012  
Alyssa Badgley 2013  
Whitney Reed 2013  
Kelly Biro 2013  
Angela Salamone 2014-15  
Carolina Alvrin 2014  
Lauren Sercer 2014-15  
Thalles Souza-Lopes (visiting) Summer 2015  
Hannah Caito 2015  
Sharifah Kyazike 2015-2016  
Stephanie Wiles 2016  
Hannah Beers 2016  
Rachel Long 2016  
Caylin Billingsley 2016  
Lindsay Martin 2016  
Benjamin White 2016  
Samantha Sparks 2016  
Anna Loeser, 2016  
Matthew Muhoberac, 2016  
Alexandra Bauer, 2018

High School

Dana Alhaffar 2012-2014  
Anne Ulyot 2015, 2016  
Grace LeFevre 2015, 2016

## **SERVICE AND OUTREACH**

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### Professional Service

#### Workshops

Forensic DNA Collection and Analyses. Indiana Society of Forensic Odontology, Indianapolis, October 2015.

#### Ad hoc Journal Reviewer

Journal of Insect Science · Journal of Forensic Science · Forensic Science International · Forensic Science International: Genetics · Medical and Veterinary Entomology · Journal of Medical Entomology · GENE · Transactions in Computational Biology and Bioinformatics · PeerJ

#### Ad hoc Grant Reviewer

National Institute of Justice

#### Other Service

Student competition judging: American Association of Forensic Sciences; Entomological Society of America, North American Forensic Entomology Association; Panelist: Global Scholars Project (Park Tudor High School, Indianapolis, IN); MAEOPP Girls in STEM Pre-College Student Leadership Conference (May 2015); Upward Bound (Summer 2016).

### Service to University/School/Department

Associate Director, FIS (2018-present)  
 Nominations and Awards Committee (Chair, 2014-present)  
 Faculty Council, at-large member (2014-present)  
 Forensic Science Graduate Program Coordinator (2011-2015)  
 School of Science Library Committee (2011-2014)  
 Graduate Recruitment Committee (2012-2014)  
 New Technology Committee (2012-2014)  
 Faculty Search Committee – Chemistry (2011-12, 2012-13)  
 Faculty Search Committee, Chair – Biology (2013-14)  
 Wrongful Conviction Advisory Board, 2012-present

### Public Lectures

1. Carmel Clay Public Library, Carmel, IN
2. Fishers Public Library, Fishers, IN
3. Harshman Middle School, Indianapolis, IN
4. DNA Day at the Indianapolis Children's Museum, Indianapolis, IN
5. Science on Tap! Indianapolis, IN
6. Science Alumni Annual Luncheon, Indianapolis, IN
7. Inquiry Café, Indianapolis, IN
8. Indiana Medical History Museum, Indianapolis, IN