

BIOGRAPHICAL SKETCH

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NAME: Purdy, Amanda

eRA COMMONS USER NAME (credential, e.g., agency login): apurdy

POSITION TITLE: Associate Chief Academic Officer, Director of Academic Affairs

EDUCATION/TRAINING (*Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.*)

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
University of Minnesota, Minneapolis/St. Paul, MN	BS	03/1998	Genetics and Cell
University of Colorado, Boulder, CO	PhD	02/2005	Biology
Institute of Cancer Research, Philadelphia, PA	Postdoc	04/2010	Immunology

A. PERSONAL STATEMENT

Throughout my training and professional career, I have fostered the development of junior scientists and clinicians through experiential and didactic programming with a focus on building communication, mentorship, leadership, and science literacy skills, and retaining underserved populations in STEM fields. In my current roles as the Associate Chief Academic Officer and the Director of Academic Affairs at Fox Chase Cancer Center I am responsible for creating, coordinating, implementing, and evaluating programs that support high school, undergraduate, graduate, and postgraduate students. I work directly with faculty, departmental administrators, and students and cultivate relationships with program alumni, industry professionals, and donors to make continuous innovations and improvements to the Center's educational programs. I serve as an advisor of curriculum development and integration for experiential learning in several urban and suburban high schools in the Philadelphia area. In this role, I also mentor and collaborate with high school teachers to adapt lab-based, open-inquiry experiments to the classroom. To promote career exploration and retention in STEM disciplines, I serve as a community outreach ambassador for the Cancer Center. In this role, I host and coordinate activities for middle school, high school, and undergraduate students and lead tours of the Center.

B. POSITIONS AND HONORS**Positions and Employment**

1995-1998	Undergraduate Researcher, Veterinary Pathobiology, University of Minnesota, St. Paul, MN, Research Focus: Determination of the genetic basis for Overo Lethal White Syndrome in paint horses; Genetic testing for Porcine Stress Syndrome and Scrapie
1999-2005	Graduate Student, MCDB University of Colorado, Boulder, CO, Research Focus: Elucidation of the regulatory mechanisms controlling the metaphase/anaphase DNA damage checkpoint in <i>Drosophila</i> embryos
2005-2010	Postdoctoral Fellow, Fox Chase Cancer Center, Philadelphia, PA, Research focus: Determining the functional roles of SHP-2 (and SHP-1) in controlling natural killer cell activity
2010-2012	Adjunct Professor, Montgomery County Community College, Blue Bell, PA
2010-2014	Research Associate, Fox Chase Cancer Center, Philadelphia, PA, Research focus: Assessment of the mechanisms controlling KIR cell surface expression and trafficking in human natural killer cells
2014-2016	Coordinator, Immersion Science External Program and Academic Affairs, Fox Chase Cancer Center, Philadelphia, PA
2015-	Adjunct Professor, Temple University, College of Science and Technology, Philadelphia, PA
2016-2018	Manager, Academic Programs and Training, Fox Chase Cancer Center, Philadelphia, PA
2018-	Director, Academic Affairs, Fox Chase Cancer Center, Philadelphia, PA
2022	Director, Graduate Student and Postdoctoral Training Program, Fox Chase Cancer Center, Philadelphia, PA

2023 Associate Chief Academic Officer, Fox Chase Cancer Center, Philadelphia, PA

Other Experience and Professional Memberships

1999-2000 Graduate Teaching Assistant, MCDB University of Colorado, Boulder, CO
2005-2006 Coordinator and Scientific Liaison, Howard Hughes Medical Institute Student Scientist Program, Fox Chase Cancer Center, Philadelphia, PA
2012 Teaching certificate for online and hybrid higher education, Montgomery County Community College, Blue Bell, PA
2014 Reviewer, Immersion Science Program, Fox Chase Cancer Center, Philadelphia, PA
2015-2018 Advisor, Genetics of Cancer Course, William Tennent High School, Warminster, PA
2015 Advisor, Eli Lilly's Incubator Challenge, William Tennent High School, Warminster, PA
2015- Advisor, Biotechnology Program, North Montco Technical Career Center, Lansdale, PA
2016- Advisor, Biotechnology Pathway Program, Roxborough High School, Philadelphia, PA
2016- Curriculum developer and teaching mentor, Coordinated the development of a new course (*Special Topics: From Bench to Bedside*) at Chestnut Hill College in Chestnut Hill, PA
2017-2021 Collaborator, Bucks County Intermediate Unit, Doylestown, PA
2019- Advisor, Centennial School District School Counseling Advisory Council
2019- Summer Cancer Research Institute Education Core Advisory Committee
2021-2022 CoChair, Membership Committee, Women In Biology
2021- Member, Philadelphia STEM Ecosystem Equity Collective, Workforce Development Subcommittee
2022- Member, Diversity, Equity, Inclusion and Accessibility Council
2023- Co-vice Chapter Chair, Philadelphia Chapter, Women in Biology

Honors

1997 Travel fellowship from Committee on Institutional Cooperation Women in Science and Engineering Initiative, St. Paul, MN
1997-1998 Undergraduate Research Opportunities Award, University of Minnesota, St. Paul, MN
2000-2003 NIH Training Grant Fellowship, University of Colorado, CO
2004 Travel fellowship for Chromosome Segregation and Aneuploidy Conference in Cortona, Italy
2008-2009 NIH Postdoctoral Training Grant Fellowship
2009 Edward Lustbader Award for Oral Presentation – Trainee Research Conference, Fox Chase Cancer Center, Philadelphia, PA
2013 Baruch Blumberg Citizen Award, Fox Chase Cancer Center, Philadelphia, PA
2017 Special Contributor Award, Fox Chase Cancer Center, Philadelphia, PA

C. Contributions to Science

1. During my undergraduate research training with Dr. James Mickelson at the University of Minnesota in St. Paul, I focused on identifying the causative genetic mutation in Overo Lethal White Syndrome, a recessive fatal disease in Paint horses. From these studies, I helped develop a genetic test still widely used by breeders to identify carrier animals.
 - a. Santschi, EM, **Purdy, AK**, Valberg, SJ, Vrotsos, PD, Kaese, H, Mickelson, JR. Endothelin receptor B polymorphism associated with lethal white foal syndrome in horses. *Mammalian Genome*, 1998;9(4):306-9. PubMed PMID: 9530628.
 - b. Santschi, EM, Vrotsos, PD, **Purdy, AK**, Mickelson, JR. Incidence of the endothelin receptor B mutation that causes lethal white foal syndrome in white-patterned horses. *Am J Vet Res*, 2001;62(1):97:103. PubMed PMID: 11197568.
2. As a graduate student in Dr. Tin Tin Su's lab at the University of Colorado in Boulder, I elucidated the mechanisms by which cells with DNA damage either slow cell cycle progression to activate DNA repair/apoptotic mechanisms, or proceed through the cell cycle and divide. I discovered that both the level of damage and cell cycle phase at which the damage incurred influenced the decision to pause or continue cell cycle progression.
 - a. Su, TT, Parry, DH, Donahoe, B, Chien, C, O'Farrell, PH, **Purdy, AK**. Cell cycle roles for two 14-3-3 proteins during *Drosophila* development. *J. Cell Science*, 2001;114:3445-54. PubMed PMID: 11682604.

- b. Laurençon, A, **Purdy, AK**, Sekelsky, J, Hawley, SR, Su, TT. Phenotypic analysis of separation-of-function alleles of MEI-41, Drosophila ATM/ATR. *Genetics*, 2003;164:589-601. PubMed PMID: 12807779.
 - c. **Purdy, AK** and Su, TT. Telomeres: not all breaks are equal. *Current Biology*, 2004;14(15):R613-4. PubMed PMID: 15296775.
 - d. **Purdy, AK**, Uyetake, L, Garner, M, Su, TT. Regulation of mitosis in response to damaged or incompletely replicated DNA shows different requirements for Grapes (Drosophila Chk1). *J. Cell Science*, 2005;118:3305-15. PubMed PMID: 16079276.
3. During my postdoctoral studies with Dr. Kerry Campbell at Fox Chase Cancer Center in Philadelphia, I discovered a new role for SHP-2 phosphatase in negatively regulating natural killer cell function. I also characterized a new mechanism for regulation of killer immunoglobulin-like receptors (KIR) through AP2/clathrin complex-dependent internalization.
 - a. **Purdy, AK** and Campbell, KS. SHP-2 expression negatively regulates NK cell function. *J. Immunology*, 2009; 183(11):7234-43. PubMed 19915046.
 - b. **Purdy, AK** and Campbell, KS. Natural killer cells and cancer: Regulation by the killer cell Ig-like receptors (KIR). *Cancer Biol and Therapy*, 2009; 8(23):13-22. PubMed 19923897.
 - c. Campbell, KS and **Purdy, AK**. Structure/Function of Human Killer Cell Ig-like Receptors: Lessons from Polymorphisms, Evolution, Crystal Structures, and Mutations. *Immunology*, 2011;132(3):315-25. PubMed 21214544.
 - d. **Purdy, AK**, Alvarez-Arias, DA, Oshinsky, J, James, AM, Serebriiskii, I and Campbell, KS. The AP-2 clathrin adaptor mediates endocytosis and influences the inhibitory function of KIR3DL1. *J. Immunology*, 2014;193(9):4675-83. PubMed 25238755.
4. **Developed innovative programming to promote retention in the STEM workforce pipeline with a special focus on women and underserved groups.** Evidence shows that engaging learners in hands-on, experiential activities is more impactful and long lasting in retaining students in STEM than traditional didactic methods of instruction. These experiential opportunities are especially effective in populations traditionally underrepresented in the biomedical sciences, including women, those from racial and ethnic minorities and low-income backgrounds, persons with disabilities, and first generation college students. As such, I have dedicated significant effort to creating novel opportunities for high school, undergraduate, graduate, and post-graduate learners to engage in STEM programming that reinforces critical thinking, communication, and science literacy through hands-on curriculum. For high school students, I created an experiential training program called the Teen Research Internship Program (TRIP) Initiative. During the program, each student develops their own hypothesis-driven research project focused on testing the impact of diet, environment, and stress on fruit fly health, development and behavior. Since 2014, over 300 high school students have participated in TRIP of which 64% were female, 38% were URM and 99% of post-high school students are currently enrolled in college or have completed a college degree, and 98% are pursuing a STEM-related major. Through this program, I have also mentored 4 postdoctoral fellows, 1 graduate student, and 1 scientific technician in the development of curriculum and assessments, lab management, and program administration as well as collaborated with three high school teachers to adapt TRIP-content to the classroom. I initiated the development, coordination, and analysis of a new cancer therapies curriculum (called Special Topics: From Bench to Bedside) for upperclassmen at Chestnut Hill College in Chestnut Hill, PA. Through this effort, I mentored 9 postdoctoral fellows and 1 graduate student in didactic teaching methods, lecture and assessment development, and syllabus creation. Since 2018, this course has been regularly offered at Chestnut Hill College and continues to be team-taught by the Cancer Center's trainees. In 2017, to expand the undergraduate training opportunities at Fox Chase, I partnered with NUCLEUS in the College of Arts and Sciences at the University of Delaware to create the Fox Chase Cancer Center-University of Delaware Research Fellowship. The overarching goals of the program are to expose underclassmen to careers in science and medicine, engage them in mentored research, and build the skills necessary to succeed in the future workforce. Since the program's inception, 20 undergraduates have completed the program of which 83% were female and 58% were from underrepresented groups. In 2022, after receiving R25 (CA259244-01A1) from the NCI, I expanded this program to serve 12 students.

Complete List of Published Work in MyBibliography:

https://pubmed.ncbi.nlm.nih.gov/?term=Purdy%20AK&cauthor_id=19923897

FUNDING

- 2022-2027 Fellowship Director – “Empowering the Next Generation of Cancer Professionals: the Fox Chase Cancer Center-University of Delaware Partnership for Undergraduate Research and Career Development,” National Cancer Institute (NCI) R25 CA259244-01A1
- 2022 Fellowship Director – “Medical Research Education Program”, J. Roland Gilbert, Mary R. Gilbert and Elizabeth A. Gilbert Memorial Fund
- 2022 Fellowship Director – “Experiential Cancer Research Opportunities for Medical Students”, H. G. Barsumian MD Memorial Fund
- 2020-present Program Director – Teen Research Internship Program an Innovative Education Program through Pennsylvania’s Educational Improvement Tax Credit Program