

CURRICULUM VITAE
JON PATRICK BOYLE, Ph.D.

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EDUCATION

Ph.D., Veterinary Science (Focus: Molecular Parasitology) Department of Pathobiological Sciences, University of Wisconsin-Madison.	2003
M.S., Veterinary Science (Focus: Molecular Parasitology) Department of Pathobiological Sciences, University of Wisconsin-Madison.	1998
B.A., Cellular and Molecular Biology (with High Honors) University of Montana.	1995

CURRENT POSITIONS AND AFFILIATIONS

Associate Professor Department of Biological Sciences, University of Pittsburgh	Appointment date: September 1, 2015
Member, Molecular Virology and Microbiology Training Program University of Pittsburgh School of Medicine	October 2008-Present

PREVIOUS POSITIONS

Assistant Professor Department of Biological Sciences, University of Pittsburgh	September, 2008-August 2015
Postdoctoral Research Scholar Advisor: Dr. John C. Boothroyd. Dept. of Microbiology and Immunology, Stanford University. <i>Genetics of virulence in the obligate intracellular parasite Toxoplasma gondii.</i>	June, 2003-August, 2008
Research Associate Advisors: Drs. Nicole T. Perna and Bruce M. Christensen. Dept. of Animal Health and Biomedical Sciences, University of Wisconsin-Madison. <i>Annotating the transcriptome of mosquito disease vectors.</i>	January-June, 2003
Doctoral Student Advisor: Dr. Timothy P. Yoshino. Dept. of Pathobiological Sciences, University of Wisconsin-Madison. <i>Thesis Title: "Serotonin and intramolluscan stages of the human blood fluke, Schistosoma mansoni: Uptake, behavioral effects, and role in development"</i>	1998-2003
Masters Student Advisor: Dr. Timothy P. Yoshino. Dept. of Pathobiological Sciences, University of Wisconsin-Madison. <i>Thesis title: "Egg-laying in the freshwater pulmonate snail Biomphalaria glabrata: its experimental control and the role of biogenic monoamines"</i>	1996-1998
Fullbright Research Scholar Advisor: Dr. Phillippe Roch, Universite de Montpellier II, Montpellier, France. <i>Innate immune mechanisms in marine bivalves.</i>	1995-1996

ACTIVE GRANTS

	<u>Years</u>	<u>Direct Costs</u>
Research Grant R01AI114655. "Effector diversification and <i>Toxoplasma</i> virulence." National Institute of Allergy and Infectious Diseases, NIH, R01. Role: PI.	2014-2019	\$1,250,000
Research Grant R21AI110351. "Cyst effector gene families and <i>Toxoplasma</i> pathogenesis." National Institute of Allergy and Infectious Diseases, NIH, R21. Role: PI.	2014-2016	\$275,000
Research Grant R01AI116855. "Comparative and functional genomics of <i>Hammondia hammondi</i> and <i>Toxoplasma</i> ." National Institute of Allergy and Infectious Diseases, NIH, R01. Role: PI.	2015-2018	\$750,000

SUBMITTED/PENDING GRANTS

	<u>Status</u>	<u>Years</u>	<u>Direct Costs</u>
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None

PREVIOUSLY FUNDED GRANTS

	<u>Year(s)</u>	<u>Direct Costs</u>
Research Grant. "A novel approach to characterize the <i>Toxoplasma</i> secretome <i>in vivo</i> ." National Institute of Allergy and Infectious Diseases, NIH, R21. Role: PI. R21AI093906. Under no-cost extension	2012-2015	\$297,672
Pew Scholarship in the Biomedical Sciences. "Virulence and host range in intracellular pathogens." Pew Charitable Trusts. Role: PI.	2009-2013	\$240,000
Research Scholar Development Award (K22). "Molecular basis of pathogenesis in <i>Toxoplasma</i> ". National Institute of Allergy and Infectious Diseases, NIH. Role: PI. K22AI080977.	2009-2011	\$250,000
Research Grant. "Using Transposon-site sequencing to identify genes required for cyst formation in the human pathogen, <i>Toxoplasma gondii</i> ." Competitive Medical Research Fund, University of Pittsburgh School of Medicine. Role: PI.	2010	\$25,000
Research Grant. Samuel and Emma Winters Foundation, Pittsburgh, PA. Role: PI.	2009	\$9,638
Research Grant. Central Research Development Fund, University of Pittsburgh. Role: PI.	2009-2010	\$14,712

AWARDS AND FELLOWSHIPS

	<u>Year(s)</u>
Ralph E. Powe Junior Faculty Enhancement Award , Oak Ridge Associated Universities. (\$10,000 in Research Funds)	2009
Best Oral Presentation Award , Molecular Parasitology Meeting, Woods Hole, MA.	2006

Ruth L. Kirschstein Postdoctoral National Research Service Award. “Virulence genes in recombinant strains of <i>Toxoplasma</i> .” National Institute of Allergy and Infectious Diseases, NIH. Role: PI. F32AI060306.	2004-2007
Outstanding Graduate Student Research Award, UW-School of Veterinary Medicine.	2002
Individual Predoctoral National Research Service Award. “Characterization of an ancient serotonin transporter.” National Institutes of Mental Health, NIH. Role: PI. F31MH012992.	2001-2002
Institutional Predoctoral National Research Service Award. Cellular and Molecular Parasitology Training Grant, National Institute of Allergy and Infectious Diseases, NIH.	1996-1999
Fullbright Grant for Study Abroad. Fullbright Foundation.	1995-1996
Watkins Research Scholarship. University of Montana.	1994
College Honors Scholarship. University of Montana.	1990

LAB MEMBER AWARDS

	<u>STUDENT</u>	<u>Year(s)</u>
Best Poster Award. Annual Retreat, Department of Biological Sciences, University of Pittsburgh.	Elisabeth English, Graduate Student.	September, 2013
Goldwater Scholarship. Goldwater Foundation.	Adair L. Borges, Undergraduate.	2013-2014
Honorable Mention, Best Poster Award. FASEB Conference for microbial pathogenesis.	Katelyn A. Walzer, Research Technician	Summer, 2013
Best Poster Award. Annual Retreat, Department of Biological Sciences, University of Pittsburgh.	Yaw Adomako-Ankomah, Graduate Student.	September, 2012
Best Poster Award. Molecular Parasitology Meeting, Woods Hole, MA.	Gregory M. Wier, Graduate Student.	September, 2012
Best Poster Award. Gordon Research Conference: Biology of Host-Parasite Interactions. Salve Regina University, Freeport, RI.	Katelyn A. Walzer, Undergraduate.	June, 2012

PUBLICATIONS

Since University of Pittsburgh Appointment:

Corresponding Author Publications:

In Preparation: Adomako-Ankomah Y, English EE, Pernas LF, Danielson JJ and **Boyle JP**. Selective expansion and diversification of MAF1 in *Toxoplasma gondii* and its functional impact on host mitochondrial association.

- Wier GM, McGreevy E, Brown M and **Boyle JP**. Using orthogonal protein labeling to selectively analyze *Toxoplasma* proteins in the context of the host cell. MBio.
- Walzer KA, Wier GM, Borges AL, English EE, Srinivasan AR, Dam RA and **Boyle JP**. (2014) *Hammondia hammondi* harbors functional orthologs of the host-modulating effectors GRA15 and ROP16 but is distinguished from *Toxoplasma gondii* by a unique transcriptional profile. Eukaryotic Cell. 2014 Oct 3. pii: EC.00215-14. [Epub ahead of print].
- Adomako-Ankomah Y, Wier GM, Borges AL, Wand HE and **Boyle JP**. (2014) Differential locus expansion distinguishes *Toxoplasmatinae* species and closely related strains of *Toxoplasma gondii*. MBio 5(1):e01003-13.
- Walzer KA, Adomako-Ankomah Y, Dam RA, Herrmann DC, Schares G, Dubey JP, and **Boyle JP**. (2013) *Hammondia hammondi*, an avirulent relative of *Toxoplasma gondii*, has functional orthologs of known *T. gondii* virulence genes. Proc Natl Acad Sci U S A 110:7446-7451.
- Kamau ET, Srinivasan AR, Brown MJ, Fair MG, Caraher EJ, and **Boyle JP**. (2012) A focused small-molecule screen identifies 14 compounds with distinct effects on *Toxoplasma gondii*. Antimicrobial Agents & Chemotherapy 56:5581-5590.
- Kamau E, Meehan T, Lavine MD, Arrizabalaga G, Mustata Wilson G, and **Boyle JP**. (2011) A novel benzodioxole-containing inhibitor of *Toxoplasma gondii* growth alters the parasite cell cycle. Antimicrobial Agents & Chemotherapy 55:5438-5451.
- Reese ML, Zeiner GM, Saeij JP, Boothroyd JC, and **Boyle JP**. (2011) Polymorphic family of injected pseudokinases is paramount in *Toxoplasma* virulence. Proc Natl Acad Sci U S A. 108:9625-9630.
- Collaborative Publications:
- Bayer A, Delorme-Axford E, Sleighter C, Frey TK, Trobaugh DW, Klimstra WB, Emert-Sedlak LA, Smithgall TE, Kinchington PR, Vadia S, Seveau S, **Boyle JP**, Coyne CB, Sadovsky Y. (2014) Human trophoblasts confer resistance to viruses implicated in perinatal infection. American Journal of Obstetrics and Gynecology. Aug 6. pii: S0002-9378(14)00809-6.
- Morgado P, Sudarshana D, Gov L, Harker K, Lam T, Casali P, **Boyle JP**, and Lodoen M. (2014). Type II *Toxoplasma gondii* induction of CD40 on infected macrophages enhances IL-12 responses. Infection and Immunity. Jul 14. pii: IAI.01615-14.
- Pernas L, Adomako-Ankomah Y, Shastri AJ, Ewald SE, Treeck M, **Boyle JP**, Boothroyd JC. (2014) *Toxoplasma* effector MAF1 mediates recruitment of host mitochondria and impacts the host response. PLoS Biology. 12(4):e1001845.
- Latorraca NR, Callenberg KM, **Boyle JP** and Grabe M. Continuum approaches to understanding ion and Peptide interactions with the membrane. (2014) Journal of Membrane Biology. May;247(5):395-408.
- Feliu V, Vasseur V, Grover HS, Chu HH, Brown MJ, Wang J, **Boyle JP**, Robey EA, Shastri N, Blanchard N. (2013) Location of the CD8 T cell epitope within the antigenic precursor determines immunogenicity and protection against the *Toxoplasma gondii* parasite. PLoS Pathogens. 9(6):e1003449.
- Dubey JP, Tilahun G, **Boyle JP**, Schares G, Verma SK, Ferreira LR, Oliveira S, Tiao N, Darrington C, and Gebreyes WA. (2013) Molecular and Biological Characterization of First Isolates of *Hammondia hammondi* from Cats from Ethiopia. Journal of Parasitology. 99:614-618.
- Wasmuth JD, Pszenny V, Haile S, Jansen EM, Gast AT, Sher A, **Boyle JP**, Boulanger MJ, Parkinson J, and Grigg ME. (2012) Integrated bioinformatic and targeted deletion analyses of the SRS gene superfamily identify SRS29C as a negative regulator of *Toxoplasma* virulence. mBio 3(6).
- Ong YC, **Boyle JP**, and Boothroyd JC. (2011) Strain-dependent host transcriptional responses to *Toxoplasma* infection are largely conserved in mammalian and avian hosts. PLoS ONE. 6:e26369.

- Khaminets A, Hunn JP, Konen-Waisman S, Zhao YO, Preukschat D, Coers J, **Boyle JP**, Ong YC, Boothroyd JC, Reichmann G, and Howard JC. (2010) Coordinated loading of IRG resistance GTPases on to the *Toxoplasma gondii* parasitophorous vacuole. *Cellular Microbiology*. 12:939-961.
- Bontell IL, Hall N, Ashelford KE, Dubey JP, **Boyle JP**, Lindh J, and Smith JE. (2009) Whole genome sequencing of a natural recombinant *Toxoplasma gondii* strain reveals chromosome sorting and local allelic variants. *Genome Biology* 10:R53.
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Publications Prior to University of Pittsburgh Appointment:

- Boyle JP**, Saeij JP, Harada SY, Ajioka JW, and Boothroyd JC. (2008) Expression quantitative trait locus mapping of *Toxoplasma* genes reveals multiple mechanisms for strain-specific differences in gene expression. *Eukaryotic Cell*. 7:1403-1414.
- Boyle JP**, Saeij JP, and Boothroyd JC. (2007) *Toxoplasma gondii*: inconsistent dissemination patterns following oral infection in mice. *Experimental Parasitology*. 116:302-305.
- Saeij JP, Collier S, **Boyle JP**, Jerome ME, White MW, and Boothroyd JC. (2007) *Toxoplasma* co-opts host gene expression by injection of a polymorphic kinase homologue. *Nature*. 445:324-327.
- Boyle JP**, Rajasekar B, Saeij JP, Ajioka JW, Berriman M, Paulsen I, Roos DS, Sibley LD, White MW, and Boothroyd JC. (2006) Just one cross appears capable of dramatically altering the population biology of a eukaryotic pathogen like *Toxoplasma gondii*. *Proc Natl Acad Sci U S A*. 103:10514-10519.
- Saeij JP, **Boyle JP**, Collier S, Taylor S, Sibley LD, Brooke-Powell ET, Ajioka JW, and Boothroyd JC. (2006) Polymorphic secreted kinases are key virulence factors in toxoplasmosis. *Science*. 314:1780-1783.
- Boyle JP**, and Yoshino TP. (2005) Serotonin-induced muscular activity in *Schistosoma mansoni* larval stages: importance of 5-HT transport and role in daughter sporocyst production. *Journal of Parasitology*. 91:542-550.
- Hillyer JF, Schmidt SL, Fuchs JF, **Boyle JP**, and Christensen BM. (2005) Age-associated mortality in immune challenged mosquitoes (*Aedes aegypti*) correlates with a decrease in haemocyte numbers. *Cellular Microbiology*. 7:39-51.
- Khan A, Taylor S, Su C, Mackey AJ, **Boyle J**, Cole R, Glover D, Tang K, Paulsen IT, Berriman M, Boothroyd JC, Pfefferkorn ER, Dubey JP, Ajioka JW, Roos DS, Wootton JC, and Sibley LD. (2005) Composite genome map and recombination parameters derived from three archetypal lineages of *Toxoplasma gondii*. *Nucleic Acids Research*. 33:2980-2992.
- Saeij JP, **Boyle JP**, Grigg ME, Arrizabalaga G, and Boothroyd JC. (2005) Bioluminescence imaging of *Toxoplasma gondii* infection in living mice reveals dramatic differences between strains. *Infection and Immunity*. 73:695-702.
- Bartholomay LC, Cho WL, Rocheleau TA, **Boyle JP**, Beck ET, Fuchs JF, Liss P, Rusch M, Butler KM, Wu RC, Lin SP, Kuo HY, Tsao IY, Huang CY, Liu TT, Hsiao KJ, Tsai SF, Yang UC, Nappi AJ, Perna NT, Chen CC, and Christensen BM. (2004) Description of the transcriptomes of immune response-activated hemocytes from the mosquito vectors *Aedes aegypti* and *Armigeres subalbatus*. *Infection and Immunity*. 72:4114-4126.
- Vermeire JJ, **Boyle JP**, and Yoshino TP. (2004) Differential gene expression and the effects of *Biomphalaria glabrata* embryonic (Bge) cell factors during larval *Schistosoma mansoni* development. *Molecular and Biochemical Parasitology*. 135:153-157.
- Boyle JP**, Hillyer JF, and Yoshino TP. (2003) Pharmacological and autoradiographical characterization of serotonin transporter-like activity in sporocysts of the human blood fluke, *Schistosoma mansoni*. *Journal of Comparative Physiology A*. 12:12.

- Boyle JP**, Wu XJ, Shoemaker CB, and Yoshino TP. (2003) Using RNA interference to manipulate endogenous gene expression in *Schistosoma mansoni* sporocysts. *Molecular and Biochemical Parasitology*. 128:205-215.
- Boyle JP**, and Yoshino TP. (2002) Monoamines in the albumen gland, plasma, and central nervous system of the snail *Biomphalaria glabrata* during egg-laying. *Comparative Biochemistry and Physiology A*. 132:411-422.
- Boyle JP**, Zaide JV, and Yoshino TP. (2000) *Schistosoma mansoni*: effects of serotonin and serotonin receptor antagonists on motility and length of primary sporocysts *in vitro*. *Experimental Parasitology*. 94:217-226.

INVITED REVIEWS, BOOK CHAPTERS, COMMENTARIES AND OPINION PIECES:

Since University of Pittsburgh Appointment:

- Mini-review: (In preparation).** English EE and **Boyle JP**. *Toxoplasma* host range: Is it really unique in its breadth? *PLoS Pathogens*.
- Book Chapter: (In preparation).** English EE and **Boyle JP**. Host responses to closely-related Apicomplexan species. Book Title: *Toxoplasma gondii* Host Cell Interactions. Series Title: *Frontiers in Parasitology*. Bentham Publishing. Submit date December, 2014.
- Review: (Accepted pending minor revisions).** English EE, Adomako-Ankomah Y and **Boyle JP**. Comparative analysis of rhoptry and dense granule effectors in *Toxoplasma gondii* and related species: determinants of host range and pathogenesis? *Parasite Immunology* (Special Issue: Toxoplasmosis).
- Commentary:** Walzer KA and **Boyle JP**. (2012) A single chromosome unexpectedly links highly divergent isolates of *Toxoplasma gondii*. *mBio* 3(1):e00284-11.
- Opinion piece:** Reese ML and **Boyle JP**. (2012) Virulence without catalysis: How can a pseudokinase affect host cell signaling? *Trends in Parasitology*. Feb;28(2):53-7.
- Review:** Adomako-Ankomah Y, Wier G and **Boyle JP**. (2011) Beyond the genome: Recent advances in *Toxoplasma gondii* functional genomics. *Parasite Immunology*. 55(12):5438-51.
- Review:** **Boyle JP** and Radke J. (2009) A brief history of studies that examine the interactions of *Toxoplasma* with its host cell: Emphasis on *in vitro* models. *International Journal for Parasitology*. 39:903-914.
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Prior to University of Pittsburgh Appointment:

- Review:** **Boyle JP**, Saeij JPJ, Cleary MD and Boothroyd JC. (2006) Analysis of gene expression during development: lessons from the Apicomplexa. *Microbes and Infection*. 8(6):1623-30.
- Review:** Saeij JPJ, **Boyle JP** and Boothroyd JC. (2005) Differences among the three major strains of *Toxoplasma gondii* and their specific interactions with the infected host. *Trends in Parasitology*. 21(10):476-81.
- Review:** **Boyle JP** and Yoshino TP (2003) Gene manipulation of parasitic helminths. *International Journal for Parasitology*. 33(11):1259-1268.
- Review:** Yoshino TP, **Boyle JP** and Humphries JE (2001) Receptor-ligand interactions and cellular signaling at the host-parasite interface. *Parasitology*, 123:S143-157.

INVITED PRESENTATIONS:

Since University of Pittsburgh Appointment

Department of Computational Biology, Joint Seminar, Carnegie Mellon University/University of Pittsburgh. February, 2015.

Student-invited Speaker, Department of Biology, Washington and Jefferson College. November, 2014.
Department of Pharmacology and Toxicology, Indiana University School of Medicine. October, 2014.
Department of Medical Microbiology and Immunology, University of Wisconsin-Madison. May, 2014.
Department of Microbiology and Molecular Genetics, University of Pittsburgh School of Medicine, May, 2014.

Department of Biological Sciences and Institute for Global Health, Vanderbilt University. March, 2014.
Department of Pathobiological Sciences, University of Wisconsin-Madison. June, 2012.
Department of Biochemistry and Molecular Biology, Colorado State University. April, 2012.
Department of Molecular Microbiology and Immunology, Oregon Health and Sciences University. February, 2012.

Department of Infectious Diseases and Microbiology. University of Pittsburgh. January, 2012.
Science 2011, University of Pittsburgh. October, 2011.

Department of Molecular Biology and Biochemistry, University of California-Irvine. April, 2011.

Department of Pathobiology, University of Pennsylvania, Philadelphia, PA. March, 2011.

Department of Veterinary Molecular Biology, Montana State University, Bozeman, MT. March, 2010.

Laboratory of Parasitic Diseases, NIH. January, 2010.

Center for Vaccine Research, University of Pittsburgh School of medicine. April, 2009.

Invited Presentations Prior to University of Pittsburgh Appointment:

Symposium on Genomic Approaches to Host-Parasite Interactions, American Society of Tropical Medicine and Hygiene, Philadelphia, PA. November, 2007.

American Society of Tropical Medicine and Hygiene annual meeting, Atlanta, GA. December, 2006.

Keynote speaker. Symposium on Toxoplasmosis, Mexico City. June, 2006.

Department of Biomedical Sciences, Iowa State University, Ames, IA. May, 2001.

CONFERENCE ORAL PRESENTATIONS (Since University of Pittsburgh Appointment):

Wier GM*, McGreevy EM, Brown MJ, Truong F, Tirrell DA and **Boyle JP**. Using an analog of methionine to specifically label *Toxoplasma gondii* proteins in the context of the host cell. Molecular Parasitology Meeting, Woods Hole, MA. September, 2014. ****Selected as a talk from over 270 abstracts.**

Boyle JP*. Host cell targeting small molecules with activity against highly diverse intracellular pathogens. Pew Scholars Annual Meeting, Vieques, Puerto Rico. March 2013.

Wier GM*, Tirrell DA, Walker AK, Andrews PC and **Boyle JP**. A new method for the orthogonal labeling and purification of *Toxoplasma* secreted proteins in the context of the host. Molecular Parasitology Meeting, Woods Hole, MA. September 2012. ****Selected as a talk from over 250 abstracts.**

Adomako-Ankomah Y*, Pernas L and **Boyle JP**. An expanded gene cluster, *MAF1*, mediates virulence in *Toxoplasma gondii* through recruitment of host mitochondria. Molecular Parasitology Meeting, Woods Hole, MA. September 2012. ****Selected as a talk from over 250 abstracts.**

Onyeozili N*, Callenberg KM, **Boyle JP**, and Grabe M. Determining the binding affinity of *Toxoplasma* ROP proteins to a membrane using free energy calculations. Plenary Session, Summer Research Symposium. Duquesne University. Pittsburgh, Pennsylvania. 2011. ****Selected as a talk from 106 abstracts.**

Boyle JP*. Molecular mechanisms of pathogenesis in eukaryotic parasites, Annual Pew Scholars Meeting, Los Suenos, Costa Rica. March, 2010.

*** denotes presenting author**

CONFERENCE POSTER PRESENTATIONS (Since University of Pittsburgh Appointment):

Borges AL, Dubey JP and **Boyle JP***. Comparative transcriptional analysis of *Toxoplasma gondii* and *Hammondia hammondi* during *in vitro* growth. Molecular Parasitology Meeting, Woods Hole, MA. September, 2014.

Borges AL*, Adomako-Ankomah Y and **Boyle JP**. The impact of a tandemly-expanded cluster of pseudokinase paralogs on bradyzoite differentiation and cyst biology. Molecular Parasitology Meeting, Woods Hole, MA. September, 2014.

Srinivasan AR*, Harper JL, Kamau ET, Jeffers V, Sullivan Jr. WJ, and **Boyle JP**. Identification of a putative drug-resistance protein in the human pathogen *Toxoplasma gondii*. Molecular Parasitology Meeting, Woods Hole, MA. September, 2014.

English EE*, Danielson JJ, Adomako-Ankomah Y and **Boyle JP**. The role of MAF1 expression during the establishment of chronic *T. gondii* infection. Molecular Parasitology Meeting, Woods Hole, MA. September, 2014.

Kamau ET*, Lavine MD, Arrizabalaga GA and **Boyle JP**. Using Chemical Mutagenesis and Deep Sequencing to Identify the Target Of A Novel Inhibitor Of *Toxoplasma gondii* Growth. Molecular Parasitology Meeting, Woods Hole, MA. September 2012.

Adomako-Ankomah Y*, Pernas L, Boothroyd JC and **Boyle JP**. Gordon Research Conference: Biology of Host-Parasite Interactions. Salve Regina University, Freeport, RI. June 2012.

Walzer KA*, Dam RA, Herrmann DC, Schares G, Dubey JP, and **Boyle JP**. Polymorphic secreted effectors from nonpathogenic *Hammondia hammondi* complement virulence in *Toxoplasma gondii*. Gordon Research Conference: Biology of Host-Parasite Interactions. Salve Regina University, Freeport, RI. June 2012. ****won best poster award out of ~200 posters**

Walzer KA and **Boyle JP***. Studying how mouse virulence evolved in the human pathogen *Toxoplasma gondii*. Pew Scholars Annual Meeting, Panama. March, 2012

N. Onyeozili*, K.M. Callenberg, S.C. Xiao, **J.P. Boyle**, and M. Grabe. Determining the binding affinity of *Toxoplasma* ROP proteins to a membrane using free energy calculations. 56th Annual Biophysical Society Meeting. San Diego, CA. 2012

N. Onyeozili*, K.M. Callenberg, **J.P. Boyle**, and M. Grabe. Determining the binding affinity of *Toxoplasma* ROP proteins to a membrane using free energy calculations. 2011 Annual Biomedical Research Conference for Minority Students, St. Louis, MO.

S.C. Xiao*, K.M. Callenberg, N.O. Onyeozili, **J.P. Boyle**, and M. Grabe. A quantitative approach to understanding membrane targeting and association of ROP proteins to the host membrane during *Toxoplasma* infection. Science 2011. University of Pittsburgh, Pittsburgh, PA. 2011.

Adomako-Ankomah Y*, Ross H, Wootton J, and **Boyle JP**. A cluster of bradyzoite-specific pseudokinases is involved in controlling parasite growth during *Toxoplasma gondii* stage differentiation. International Toxoplasmosis Meeting, Ottawa CA. June 2011.

Kamau E*, Salvador C, and **Boyle JP**. A small-molecule approach to identify essential *Toxoplasma gondii* kinase effectors. International Toxoplasmosis Meeting, Ottawa CA. June 2011.

Walzer KA and **Boyle JP***. Using comparative genomics to study host range and virulence in the human pathogen *Toxoplasma gondii*. Pew Scholars Annual Meeting, Cozumel, Mexico. March, 2011

Meehan TL*, Kamau ET, Mustata G and **Boyle JP**. Identification of a novel inhibitor of *Toxoplasma* growth. Molecular Parasitology Meeting, Woods Hole, MA. September, 2010.

Adomako-Ankomah Y*, Wooton J and **Boyle JP**. Characterizing the role of ROP42 in virulence of *Toxoplasma gondii*. Molecular Parasitology Meeting, Woods Hole, MA. September, 2010.

Kamau ET*, Meehan TL, Fair M, Leone M, Brooks S and **Boyle JP**. Novel small molecule probes to identify new targets in the *Toxoplasma* kinome. Molecular Parasitology Meeting, Woods Hole, MA. September, 2010.

*** denotes presenting author**

PROFESSIONAL SERVICE

Manuscript Reviews (including 3 as guest editor):

Journal of Infectious Diseases, 2011	BMC Genomics, 2010, 2012, 2014 (2)
Cellular Microbiology, 2011, 2014	Theoretical Population Biology, 2010
mBio, 2011, 2012 (guest editor), 2015	Genome Biology, 2008
(guest editor)	
Protist, 2011 (2)	Journal of Parasitology, 2005, 2008, 2012, 2013
PloS One, 2011 (2), 2012 (4), 2013 (3),	PNAS, 2006
2014, 2015	Journal of Microbiological Methods, 2015
Int. Journal for Parasitology, 2010, 2011,	PLoS Pathogens, 2006, 2011 (guest editor), 2012,
2012	2013 (3), 2014 (2), 2015
Parasitology International, 2013	PLoS Genetics, 2015
Parasite Immunology, 2014 (2)	Molecular and Biochemical Parasitology, 2012
Cytoskeleton, 2012	Infection and Immunity, 2013 (2)
Experimental Parasitology, 2014	Acta Tropica, 2014
Eukaryotic Cell, 2014 (2)	PLoS Biology, 2014

Grant Review Panels:

Ad-hoc reviewer, Kentucky Science and Engineering Foundation, March 2015
Ad-hoc reviewer, NIH, AIDS and Opportunistic Infections and Cancer Study Section, March 2015
Ad-hoc reviewer, NIH, Pathogenic Eukaryotes Study Section, February 2015
Ad-hoc reviewer, NIH, AIDS and Opportunistic Infections and Cancer Study Section, March 2014
External Ad-hoc reviewer, Biotechnology and Biological Sciences Res. Council, UK. 2012, 2013
External Ad-hoc reviewer, Medical Research Council, UK. 2014
Ad-hoc reviewer, The National Science Foundation. 2010
External Ad-hoc reviewer, The Wellcome Trust. U.K. 2009