



## John Boothroyd

Burt and Marion Avery Professor of Immunology, Emeritus  
Microbiology and Immunology

 Curriculum Vitae available Online

### CONTACT INFORMATION

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### Bio

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#### BIO

John Boothroyd, Ph.D., is the Burt and Marion Avery Professor of Immunology (Emeritus) in the Department of Microbiology and Immunology at Stanford University School of Medicine. For over 40 years, his group focused on dissecting the pathogenesis of parasitic infections, most notably *Toxoplasma gondii*. In addition to his research, he has also been heavily committed to undergraduate, graduate and post-doctoral training, including trainee professional development.

Dr. Boothroyd received his undergraduate degree in Cell, Molecular, and Developmental Biology from McGill University in Montreal, Canada, and his PhD in Molecular Biology from Edinburgh University in Scotland. He worked as a scientist in the Immunochemistry and Molecular Biology Department at Wellcome Research Laboratories, UK, before joining the Stanford faculty in 1982 as a member of the Department of Microbiology and Immunology. He was Department Chair from 1999-2002 and served as Senior Associate Dean for Research and Training in the School of Medicine from 2002-2005 and Associate Vice Provost for Graduate Education and Postdoctoral Affairs for the University from 2018-2024. Dr. Boothroyd has received various awards including being named a Burroughs Wellcome Scholar in Molecular Parasitology in 1986 and an Ellison Medical Foundation Scholar in Global Infectious Diseases in 2002. In 2008 he received the Leuckart Medal from the German Society for Parasitology and in 2016 he was elected to membership in the U.S. National Academy of Sciences. All of these awards reflect the creativity and hard work of the many staff, students and post-docs who have worked with him, over 30 of whom are now in independent faculty positions.

Dr. Boothroyd's research interests have spanned from viruses such as bacteriophage T7 and Foot and Mouth Disease Virus through to protozoan parasites such as *Trypanosoma brucei*, the cause of African sleeping sickness, and *Toxoplasma gondii*, a serious pathogen in newborns and individuals who are immunocompromised. In 2025, Dr. Boothroyd closed his lab and transitioned to an Emeritus role at Stanford in order to take up a new position with Schmidt Science Fellows (SSF), an international postdoc training program operated as a partnership between Schmidt Sciences and the Rhodes Trust. In addition to chairing SSF's Academic Council and serving as Faculty Director, Dr. Boothroyd is heavily involved in the training and on-going mentoring of the >230 exceptional Fellows supported by SSF.

## **ACADEMIC APPOINTMENTS**

- Emeritus Faculty, Acad Council, Microbiology and Immunology
- Member, Bio-X
- Member, Maternal & Child Health Research Institute (MCHRI)

## **ADMINISTRATIVE APPOINTMENTS**

- Associate Vice Provost for Graduate Education and Postdoctoral Affairs, Stanford University, (2018-2024)
- Associate Vice Provost for Graduate Education, Stanford University, (2008-2018)
- Senior Associate Dean for Research and Training, Stanford University School of Medicine, (2003-2005)
- Senior Associate Dean for Research, Stanford University School of Medicine, (2002-2003)
- Chair, Dept. Microbiology and Immunology, Stanford University School of Medicine, (1999-2002)

## **HONORS AND AWARDS**

- Councilor, National Academy of Sciences USA (2021-2024)
- C.C. and Alice Wang Award in Molecular Parasitology, American Society for Biochemistry and Molecular Biology (2021)
- Member, National Academy of Sciences USA (2016)
- Burt and Marion Avery Professor of Immunology, Stanford University (2015)
- Leuckart Medal, German Society for Parasitology (2008)
- Fellow, American Academy of Microbiology (2007)
- Senior Scholar in Global Infectious Diseases, Ellison Medical Foundation (2002-2006)
- Bass University Fellow in Undergraduate Education, Stanford University (2002)
- Merit Award, NIH (1994-2004)
- Scholar Award in Molecular Parasitology, Burroughs Wellcome Fund (1986-1991)
- Overseas Research Scholarship, Royal Commission for the Exhibition of 1851 (1976-1979)
- Sir Arthur Sims Memorial Scholarship, Royal Society of Canada (1976-1978)

## **BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS**

- Chair, Academic Council, Schmidt Science Fellows (2023 - present)
- Chair, C.C. and Alice Wang Award Selection Committee, American Society for Biochemistry and Molecular Biology (2022 - 2025)
- Deputy Chair, Academic Council, Schmidt Science Fellows (2022 - 2023)
- Member, Governing Council, National Academy of Sciences (2021 - 2024)
- Member, Board of Directors, San José State University Research Foundation (2020 - 2024)
- Member, Academic Council, Schmidt Science Fellows (2019 - 2022)
- Member, Committee on Addressing the Underrepresentation of Women in STEMM, National Academies of Sciences, Engineering and Medicine (2018 - 2019)
- Member, Committee on Next Generation Researchers Initiative, National Academies of Sciences, Engineering and Medicine (2016 - 2018)
- Chair, Advisory Panel on Pathogenesis of Infectious Diseases, Burroughs Wellcome Fund (2013 - 2016)
- Chair, Advisory Panel on Molecular Parasitology, Burroughs Wellcome Fund (1999 - 2001)
- Chair, Gordon Conference on Parasitism, Gordon Research Conferences (1999 - 1999)
- Director, Summer Course on Biology of Parasitism, Marine Biological Laboratory (1991 - 1993)

## PROFESSIONAL EDUCATION

- Ph.D., Edinburgh University , Molecular Biology (1979)
- B.Sc. (Hons), McGill University , Cell, Mol. and Devel. Biology (1975)

## LINKS

- My group's web site: <http://boothroydlab.stanford.edu/>

## Research & Scholarship

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### CURRENT RESEARCH AND SCHOLARLY INTERESTS

Studies on the cell and molecular biology of parasitic protozoa are critically important for two reasons; first, these organisms are major pathogens of humans and animals and, second, they have proven to be a source of some remarkable phenomena that have challenged much of the dogma thought to be universal in eukaryotic biology. From 1982-2025, our lab focused on the host-parasite interaction of two protozoan parasites, *Trypanosoma brucei* and *Toxoplasma gondii*. Each has its own features that made them interesting to the scientist and both are major pathogens, trypanosomes being the cause of sleeping sickness in Africa and *Toxoplasma* being a major opportunistic pathogen of AIDS patients. As of, 1998, however, we focused our entire effort on *Toxoplasma* because of its growing importance and our results developing this system for modern genetic analysis (we now have a full genetic "toolbox" for this intracellular parasite including a genetic map, efficient genetic transformation and gene knock-out).

The major areas where the lab was focused on prior to shutting down were:

- (i) Intracellular parasitism: how does this parasite attach, invade and reproduce within virtually any nucleated cell.
- (ii) Protein trafficking; how are proteins destined for novel secretory organelles specifically targeted and, ultimately, injected into the host cell during invasion?
- (iii) Developmental biology; what genes are crucial for asexual development from the actively dividing to the latent form of the parasite and what are the cis- and trans-elements that control that expression.
- (iv) Host-pathogen interaction: what changes occur in the host cell in response to infection?
- (v) Pathogenesis: what properties make certain strains more virulent than others?

## Teaching

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### COURSES

#### 2024-25

- Preparing for Faculty Careers: EDUC 343C (Spr)

#### 2023-24

- Understanding the Factors that Lead to Pandemics and Their Impact on Spanish and World History: OSPMADRD 26 (Spr)

#### 2022-23

- Preparing for Faculty Careers: EDUC 343C, MI 343C (Spr)

### GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Microbiology and Immunology (Phd Program)

## Publications

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### PUBLICATIONS

- **In vitro growth of *Toxoplasma gondii* tachyzoites on different host cell lines selects for changes in efficiency of invasion and parasite surface antigen gene expression** *FEMS MICROBES*  
Naor, A., Boothroyd, J.  
2026; 7: xtag006
- **Emergent actin flows explain distinct modes of gliding motility** *NATURE PHYSICS*  
Hueschen, C. L., Segev-Zarko, L., Chen, J., Legros, M. A., Larabell, C. A., Boothroyd, J. C., Phillips, R., Dunn, A. R.  
2024
- **Cryogenic electron tomography reveals novel structures in the apical complex of *Plasmodium falciparum***. *mBio*  
Sun, S. Y., Segev-Zarko, L., Pintilie, G. D., Kim, C. Y., Staggers, S. R., Schmid, M. F., Egan, E. S., Chiu, W., Boothroyd, J. C.  
2024: e0286423
- **Cryo-electron tomography with mixed-scale dense neural networks reveals key steps in deployment of *Toxoplasma* invasion machinery**. *PNAS nexus*  
Segev-Zarko, L. A., Dahlberg, P. D., Sun, S. Y., Pelt, D. M., Kim, C. Y., Egan, E. S., Sethian, J. A., Chiu, W., Boothroyd, J. C.  
2022; 1 (4): pgac183
- **Cryo-ET of *Toxoplasma* parasites gives subnanometer insight into tubulin-based structures**. *Proceedings of the National Academy of Sciences of the United States of America*  
Sun, S. Y., Segev-Zarko, L., Chen, M., Pintilie, G. D., Schmid, M. F., Ludtke, S. J., Boothroyd, J. C., Chiu, W.  
2022; 119 (6)
- **Proximity-Labeling Reveals Novel Host and Parasite Proteins at the *Toxoplasma* Parasitophorous Vacuole Membrane**. *mBio*  
Cygan, A. M., Jean Beltran, P. M., Mendoza, A. G., Branon, T. C., Ting, A. Y., Carr, S. A., Boothroyd, J. C.  
2021: e0026021
- **Coimmunoprecipitation with MYR1 Identifies Three Additional Proteins within the *Toxoplasma gondii* Parasitophorous Vacuole Required for Translocation of Dense Granule Effectors into Host Cells**. *mSphere*  
Cygan, A. M., Theisen, T. C., Mendoza, A. G., Marino, N. D., Panas, M. W., Boothroyd, J. C.  
2020; 5 (1)
- **A single-parasite transcriptional atlas of *Toxoplasma gondii* reveals novel control of antigen expression**. *eLife*  
Xue, Y., Theisen, T. C., Rastogi, S., Ferrel, A., Quake, S. R., Boothroyd, J. C.  
2020; 9
- **Identification of a novel protein complex essential for effector translocation across the parasitophorous vacuole membrane of *Toxoplasma gondii*** *PLOS PATHOGENS*  
Marino, N. D., Panas, M. W., Franco, M., Theisen, T. C., Naor, A., Rastogi, S., Buchholz, K. R., Lorenzi, H. A., Boothroyd, J. C.  
2018; 14 (1): e1006828
- **Emergent actin flows explain distinct modes of gliding motility**. *Nature physics*  
Hueschen, C. L., Segev-Zarko, L. A., Chen, J. H., LeGros, M. A., Larabell, C. A., Boothroyd, J. C., Phillips, R., Dunn, A. R.  
2024; 20 (12): 1989-1996
- ***Toxoplasma* protein export and effector function**. *Nature microbiology*  
Seizova, S., Ferrel, A., Boothroyd, J., Tonkin, C. J.  
2024
- **Host MOSPD2 enrichment at the parasitophorous vacuole membrane varies between *Toxoplasma* strains and involves complex interactions**. *mSphere*  
Ferrel, A., Romano, J., Panas, M. W., Coppens, I., Boothroyd, J. C.  
2023: e0067022
- **Actin self-organization in gliding parasitic cells**  
Hueschen, C. L., Zarko, L., Chen, J., LeGros, M., Larabell, C. A., Boothroyd, J. C., Phillips, R., Dunn, A. R.

CELL PRESS.2023: 5A

- **Emergent actin flows explain distinct modes of gliding motility**  
Hueschen, C. L., Zarko, L., Chen, J., LeGros, M. A., Larabell, C. A., Boothroyd, J. C., Phillips, R., Dunn, A. R.  
AMER SOC CELL BIOLOGY.2023: 1160
- **Transcriptional signatures of clonally derived Toxoplasma tachyzoites reveal novel insights into the expression of a family of surface proteins.** *PLoS one*  
Theisen, T. C., Boothroyd, J. C.  
2022; 17 (2): e0262374
- **Seizing control: how dense granule effector proteins enable Toxoplasma to take charge.** *Molecular microbiology*  
Panas, M. W., Boothroyd, J. C.  
2021
- **Toxoplasma Uses GRA16 To Upregulate Host c-Myc.** *mSphere*  
Panas, M. W., Boothroyd, J. C.  
2020; 5 (3)
- **Differential Impacts on Host Transcription by ROP and GRA Effectors from the Intracellular Parasite Toxoplasma gondii.** *mBio*  
Rastogi, S., Xue, Y., Quake, S. R., Boothroyd, J. C.  
2020; 11 (3)
- **What a Difference 30Years Makes! A Perspective on Changes in Research Methodologies Used to Study Toxoplasma gondii.** *Methods in molecular biology (Clifton, N.J.)*  
Boothroyd, J. C.  
2020; 2071: 1–25
- **Effectors produced by rhoptries and dense granules: an intense conversation between parasite and host in many languages TOXOPLASMA GONDII: THE MODEL APICOMPLEXAN-PERSPECTIVES AND METHODS, 3RD EDITION**  
Boothroyd, J. C., Hakimi, M.  
edited by Weiss, L. M., Kim, K.  
2020: 789–806
- **Translocation of effector proteins into host cells by Toxoplasma gondii.** *Current opinion in microbiology*  
Rastogi, S., Cygan, A. M., Boothroyd, J. C.  
2019; 52: 130–38
- **Translocation of Dense Granule Effectors across the Parasitophorous Vacuole Membrane in Toxoplasma-Infected Cells Requires the Activity of ROP17, a Rhoptry Protein Kinase.** *mSphere*  
Panas, M. W., Ferrel, A., Naor, A., Tenborg, E., Lorenzi, H. A., Boothroyd, J. C.  
2019; 4 (4)
- **Toxoplasma Controls Host Cyclin E Expression through the Use of a Novel MYR1-Dependent Effector Protein, HCE1.** *mBio*  
Panas, M. W., Naor, A., Cygan, A. M., Boothroyd, J. C.  
2019; 10 (2)
- **Erratum for Franco et al., "A Novel Secreted Protein, MYR1, Is Central to Toxoplasma's Manipulation of Host Cells".** *mBio*  
Franco, M., Panas, M. W., Marino, N. D., Lee, M. W., Buchholz, K. R., Kelly, F. D., Bednarski, J. J., Sleckman, B. P., Pourmand, N., Boothroyd, J. C.  
2018; 9 (5)
- **A Toxoplasma gondii locus required for the direct manipulation of host mitochondria has maintained multiple ancestral functions** *MOLECULAR MICROBIOLOGY*  
Blank, M. L., Parker, M. L., Ramaswamy, R., Powell, C. J., English, E. D., Adomako-Ankomah, Y., Pernas, L. F., Workman, S. D., Boothroyd, J. C., Boulanger, M. J., Boyle, J. P.  
2018; 108 (5): 519–35
- **Mitochondria Restrict Growth of the Intracellular Parasite Toxoplasma gondii by Limiting Its Uptake of Fatty Acids** *CELL METABOLISM*  
Pernas, L., Bean, C., Boothroyd, J. C., Scorrano, L.  
2018; 27 (4): 886–+

- **MYR1-Dependent Effectors Are the Major Drivers of a Host Cell's Early Response to Toxoplasma, Including Counteracting MYR1-Independent Effects** *MBIO*  
Naor, A., Panas, M. W., Marino, N., Coffey, M. J., Tonkin, C. J., Boothroyd, J. C.  
2018; 9 (2)
- **Toxoplasma gondii infection triggers chronic cachexia and sustained commensal dysbiosis in mice.** *PLoS one*  
Hatter, J. A., Kouche, Y. M., Melchor, S. J., Ng, K., Bouley, D. M., Boothroyd, J. C., Ewald, S. E.  
2018; 13 (10): e0204895
- **mRNA pseudouridylation affects RNA metabolism in the parasite Toxoplasma gondii** *RNA*  
Nakamoto, M. A., Lovejoy, A. F., Cygan, A. M., Boothroyd, J. C.  
2017; 23 (12): 1834–49
- **MAF1b Binds the Host Cell MIB Complex To Mediate Mitochondrial Association.** *mSphere*  
Kelly, F. D., Wei, B. M., Cygan, A. M., Parker, M. L., Boulanger, M. J., Boothroyd, J. C.  
2017; 2 (3)
- **An in vitro model of intestinal infection reveals a developmentally regulated transcriptome of Toxoplasma sporozoites and a NF-kappa B-like signature in infected host cells** *PLOS ONE*  
Guiton, P. S., Sagawa, J. M., Fritz, H. M., Boothroyd, J. C.  
2017; 12 (3)
- **Toxoplasma DJ-1 Regulates Organelle Secretion by a Direct Interaction with Calcium-Dependent Protein Kinase 1.** *mBio*  
Child, M. A., Garland, M., Foe, I., Madzellan, P., Treeck, M., van der Linden, W. A., Oresic Bender, K., Weerapana, E., Wilson, M. A., Boothroyd, J. C., Reese, M. L., Bogyo, M.  
2017; 8 (1)
- **Toxoplasma growth in vitro is dependent on exogenous tyrosine and is independent of AAH2 even in tyrosine-limiting conditions.** *Experimental parasitology*  
Marino, N. D., Boothroyd, J. C.  
2017
- **Toxoplasma DJ-1 Regulates Organelle Secretion by a Direct Interaction with Calcium-Dependent Protein Kinase 1** *MBIO*  
Child, M. A., Garland, M., Foe, I., Madzellan, P., Treeck, M., van der Linden, W. A., Bender, K. O., Weerapana, E., Wilson, M. A., Boothroyd, J. C., Reese, M. L., Bogyo, M.  
2017; 8 (1)
- **A Novel Secreted Protein, MYR1, Is Central to Toxoplasma's Manipulation of Host Cells.** *mBio*  
Franco, M., Panas, M. W., Marino, N. D., Lee, M. W., Buchholz, K. R., Kelly, F. D., Bednarski, J. J., Sleckman, B. P., Pourmand, N., Boothroyd, J. C.  
2016; 7 (1)
- **Not a Simple Tether: Binding of Toxoplasma gondii AMA1 to RON2 during Invasion Protects AMA1 from Rhomboid-Mediated Cleavage and Leads to Dephosphorylation of Its Cytosolic Tail.** *mBio*  
Krishnamurthy, S., Deng, B., del Rio, R., Buchholz, K. R., Treeck, M., Urban, S., Boothroyd, J., Lam, Y., Ward, G. E.  
2016; 7 (5)
- **Local admixture of amplified and diversified secreted pathogenesis determinants shapes mosaic Toxoplasma gondii genomes.** *Nature communications*  
Lorenzi, H., Khan, A., Behnke, M. S., Namasivayam, S., Swapna, L. S., Hadjithomas, M., Karamycheva, S., Pinney, D., Brunk, B. P., Ajioka, J. W., Ajzenberg, D., Boothroyd, J. C., Boyle, et al  
2016; 7: 10147-?
- **An aspartyl protease defines a novel pathway for export of Toxoplasma proteins into the host cell** *ELIFE*  
Coffey, M. J., Sleebs, B. E., Uboldi, A. D., Garnham, A., Franco, M., Marino, N. D., Panas, M. W., Ferguson, D. J., Enciso, M., O'Neill, M. T., Lopaticki, S., Stewart, R. J., Dewson, et al  
2015; 4
- **Internalization and TLR-dependent type I interferon production by monocytes in response to Toxoplasma gondii** *IMMUNOLOGY AND CELL BIOLOGY*  
Han, S., Melichar, H. J., Coombes, J. L., Chan, S. W., Koshy, A. A., Boothroyd, J. C., Barton, G. M., Robey, E. A.  
2014; 92 (10): 872-881

- **The Toxoplasma Pseudokinase ROP5 Is an Allosteric Inhibitor of the Immunity-related GTPases** *JOURNAL OF BIOLOGICAL CHEMISTRY*  
Reese, M. L., Shah, N., Boothroyd, J. C.  
2014; 289 (40): 27849-27858
- **Use of Transgenic Parasites and Host Reporters To Dissect Events That Promote Interleukin-12 Production during Toxoplasmosis** *INFECTION AND IMMUNITY*  
Christian, D. A., Koshy, A. A., Reuter, M. A., Betts, M. R., Boothroyd, J. C., Hunter, C. A.  
2014; 82 (10): 4056-4067
- **Immune Profiling of Pregnant Toxoplasma-Infected US and Colombia Patients Reveals Surprising Impacts of Infection on Peripheral Blood Cytokines.** *journal of infectious diseases*  
Pernas, L., Ramirez, R., Holmes, T. H., Montoya, J. G., Boothroyd, J. C.  
2014; 210 (6): 923-931
- **Impact of Regulated Secretion on Antiparasitic CD8 T Cell Responses** *CELL REPORTS*  
Grover, H. S., Chu, H. H., Kelly, F. D., Yang, S. J., Reese, M. L., Blanchard, N., Gonzalez, F., Chan, S. W., Boothroyd, J. C., Shastri, N., Robey, E. A.  
2014; 7 (5): 1716-1728
- **Impact of Regulated Secretion on Antiparasitic CD8 T Cell Responses.** *Cell reports*  
Grover, H. S., Chu, H. H., Kelly, F. D., Yang, S. J., Reese, M. L., Blanchard, N., Gonzalez, F., Chan, S. W., Boothroyd, J. C., Shastri, N., Robey, E. A.  
2014; 7 (5): 1716-28
- **GRA25 Is a Novel Virulence Factor of Toxoplasma gondii and Influences the Host Immune Response.** *Infection and immunity*  
Shastri, A. J., Marino, N. D., Franco, M., Lodoen, M. B., Boothroyd, J. C.  
2014; 82 (6): 2595-2605
- **The calcium-dependent protein kinase 3 of toxoplasma influences basal calcium levels and functions beyond egress as revealed by quantitative phosphoproteome analysis.** *PLoS pathogens*  
Treeck, M., Sanders, J. L., Gaji, R. Y., LaFavers, K. A., Child, M. A., Arrizabalaga, G., Elias, J. E., Boothroyd, J. C.  
2014; 10 (6)
- **The Calcium-Dependent Protein Kinase 3 of Toxoplasma Influences Basal Calcium Levels and Functions beyond Egress as Revealed by Quantitative Phosphoproteome Analysis** *PLOS PATHOGENS*  
Treeck, M., Sanders, J. L., Gaji, R. Y., LaFavers, K. A., Child, M. A., Arrizabalaga, G., Elias, J. E., Boothroyd, J. C.  
2014; 10 (6)
- **Infection by Toxoplasma gondii specifically induces host c-Myc and the genes this pivotal transcription factor regulates.** *Eukaryotic cell*  
Franco, M., Shastri, A. J., Boothroyd, J. C.  
2014; 13 (4): 483-493
- **Toxoplasma effector MAF1 mediates recruitment of host mitochondria and impacts the host response.** *PLoS biology*  
Pernas, L., Adomako-Ankomah, Y., Shastri, A. J., Ewald, S. E., Treeck, M., Boyle, J. P., Boothroyd, J. C.  
2014; 12 (4)
- **NLRP1 Is an Inflammasome Sensor for Toxoplasma gondii** *INFECTION AND IMMUNITY*  
Ewald, S. E., Chavarria-Smith, J., Boothroyd, J. C.  
2014; 82 (1): 460-468
- **Small-molecule inhibition of a depalmitoylase enhances Toxoplasma host-cell invasion.** *Nature chemical biology*  
Child, M. A., Hall, C. I., Beck, J. R., Ofori, L. O., Albrow, V. E., Garland, M., Bowyer, P. W., Bradley, P. J., Powers, J. C., Boothroyd, J. C., Weerapana, E., Bogyo, M.  
2013; 9 (10): 651-656
- **A nucleotide sugar transporter involved in glycosylation of the toxoplasma tissue cyst wall is required for efficient persistence of bradyzoites.** *PLoS pathogens*  
Caffaro, C. E., Koshy, A. A., Liu, L., Zeiner, G. M., Hirschberg, C. B., Boothroyd, J. C.  
2013; 9 (5)
- **Have it your way: how polymorphic, injected kinases and pseudokinases enable toxoplasma to subvert host defenses.** *PLoS pathogens*  
Boothroyd, J. C.

2013; 9 (4)

- **Bradyzoite Pseudokinase 1 Is Crucial for Efficient Oral Infectivity of the *Toxoplasma gondii* Tissue Cyst** *EUKARYOTIC CELL*  
Buchholz, K. R., Bowyer, P. W., Boothroyd, J. C.  
2013; 12 (3): 399-410
- **A nucleotide sugar transporter involved in glycosylation of the *Toxoplasma* tissue cyst wall is required for efficient persistence of bradyzoites.** *PLoS pathogens*  
Caffaro, C. E., Koshy, A. A., Liu, L., Zeiner, G. M., Hirschberg, C. B., Boothroyd, J. C.  
2013; 9 (5)
- ***Toxoplasma gondii* Sporozoites Invade Host Cells Using Two Novel Paralogues of RON2 and AMA1.** *PLoS one*  
Poukchanski, A., Fritz, H. M., Tonkin, M. L., Treeck, M., Boulanger, M. J., Boothroyd, J. C.  
2013; 8 (8)
- **A Forward Genetic Screen Reveals that Calcium-dependent Protein Kinase 3 Regulates Egress in *Toxoplasma*** *PLOS PATHOGENS*  
Garrison, E., Treeck, M., Ehret, E., Butz, H., Garbuz, T., Oswald, B. P., Settles, M., Boothroyd, J., Arrizabalaga, G.  
2012; 8 (11)
- ***Toxoplasma* Co-opts Host Cells It Does Not Invade** *PLOS PATHOGENS*  
Koshy, A. A., Dietrich, H. K., Christian, D. A., Melehan, J. H., Shastri, A. J., Hunter, C. A., Boothroyd, J. C.  
2012; 8 (7)
- **A *Toxoplasma gondii* Pseudokinase Inhibits Host IRG Resistance Proteins** *PLOS BIOLOGY*  
Fleckenstein, M. C., Reese, M. L., Koenen-Waisman, S., Boothroyd, J. C., Howard, J. C., Steinfeldt, T.  
2012; 10 (7)
- **Infected Dendritic Cells Facilitate Systemic Dissemination and Transplacental Passage of the Obligate Intracellular Parasite *Neospora caninum* in Mice** *PLOS ONE*  
Collantes-Fernandez, E., Arrighi, R. B., Alvarez-Garcia, G., Weidner, J. M., Regidor-Cerrillo, J., Boothroyd, J. C., Ortega-Mora, L. M., Barragan, A.  
2012; 7 (3)
- **Transcriptomic Analysis of *Toxoplasma* Development Reveals Many Novel Functions and Structures Specific to Sporozoites and Oocysts** *PLOS ONE*  
Fritz, H. M., Buchholz, K. R., Chen, X., Durbin-Johnson, B., Rocke, D. M., Conrad, P. A., Boothroyd, J. C.  
2012; 7 (2)
- **Proteomic Analysis of Fractionated *Toxoplasma* Oocysts Reveals Clues to Their Environmental Resistance** *PLOS ONE*  
Fritz, H. M., Bowyer, P. W., Bogyo, M., Conrad, P. A., Boothroyd, J. C.  
2012; 7 (1)
- **Tissue Barriers of the Human Placenta to Infection with *Toxoplasma gondii*** *INFECTION AND IMMUNITY*  
Robbins, J. R., Zeldovich, V. B., Poukchanski, A., Boothroyd, J. C., Bakardjiev, A. I.  
2012; 80 (1): 418-428
- **Identification of Tissue Cyst Wall Components by Transcriptome Analysis of In Vivo and In Vitro *Toxoplasma gondii* Bradyzoites** *EUKARYOTIC CELL*  
Buchholz, K. R., Fritz, H. M., Chen, X., Durbin-Johnson, B., Rocke, D. M., Ferguson, D. J., Conrad, P. A., Boothroyd, J. C.  
2011; 10 (12): 1637-1647
- ***Toxoplasma gondii* Induces B7-2 Expression through Activation of JNK Signal Transduction** *INFECTION AND IMMUNITY*  
Morgado, P., Ong, Y., Boothroyd, J. C., Lodoen, M. B.  
2011; 79 (11): 4401-4412
- **The Phosphoproteomes of *Plasmodium falciparum* and *Toxoplasma gondii* Reveal Unusual Adaptations Within and Beyond the Parasites' Boundaries** *CELL HOST & MICROBE*  
Treeck, M., Sanders, J. L., Elias, J. E., Boothroyd, J. C.  
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