

Siddhartha Das, Ph. D

Professor
Department of Biological Sciences
Director, Infectious Disease and Immunology Cluster
The Border Biomedical Research Center
University of Texas at El Paso

Website: <http://science.utep.edu/bbrc/index.php/about-bbrc/faculty>.

DEPARTMENT OR PROGRAM MEMBER

Biological Sciences
Environmental Sciences

EDUCATION

Research Biochemist: University of California at San Diego (UCSD) (1993)
Major: Molecular Parasitology

Post-doctoral researcher, University of Pittsburgh (1987)
Major: Parasite Enzymology

Ph. D: University of Calcutta (1982).
Major: Biochemistry/Enzymology

PROFESSIONAL MEMBERSHIPS

American Society of Cell Biology
American Society for Microbiology
The International Society of Protistologists
The American Society of Tropical Medicine and Hygiene
The American Society for Biochemistry and Molecular Biology

Collaborators:

Drs. Igor Almeida, Sukla Roychowdhury, Rosa Maldonado, JJ Sun, Manuel Miranda, Giliuo Francia (Biology, UTEP), Russ Chianelli, James Li, Mahesh Narayan, Jose Nuñez (Chemistry, UTEP), Scott Dawson (UC-Davis), Steve Patterson (University of Minnesota); Staffan Svärd (Uppsala University, Sweden).

EDITORIAL RESPONSIBILITIES (2008-2013)

Members of the Editorial Board: *Molecular and Biochemical Parasitology; World Journal of Biological Chemistry; World Journal of Emerging Infectious Diseases; ISRN; Trends in Vector Research and Parasitology, Gastroenterology and Hepatology.*

Reviewers: *American Journal of Tropical Medicine and Hygiene, Archives of Biochemistry and Biophysics, British Journal of Pharmacology, Cancer Letter, Chemotherapy, Cellular Microbiology, Experimental Parasitology, Infection and Immunity, IUBMB Life, International Journal for Parasitology, Journal of Health, Population and Nutrition, Journal of Parasitology, Molecular and Biochemical Parasitology, Molecular and Cellular Biochemistry, Journal of Eukaryotic Microbiology, PLOS One, Eukaryotic Cell, Molecular Microbiology, Parasitology, Traffic, Oswaldo Cruz, FASEB J., Journal of Anti-Microbial Chemotherapy, World Journal of Biological Chemistry, Inflammation Research, African Journal of Biotechnology, Trends in Parasitology, Journal of Cell Science, Cellular Biochemistry, Cell Biochemistry and Biophysics, Journal of Biological Chemistry, ISRN Parasitology, Parasite and Vector; Molecular Biology of the Cell; World Journal of Gastroenterology, PLoS Pathogen, Acta Tropica, Parasitology International, PLoS Neglected Tropical Disease etc.*

Grant Reviewers (2011-current):

1. Member of the NIH Study Section (Pathogenic Eukaryote), 2012, 2013, 2014
2. NIH Study Section, Microbiology including AIDS Study Section, November 13-14, 2014
3. RTRN Pilot Project, 2011, 2012, 2013
4. NSERC Discovery Grant (Canada), 2011, 2012, 2013, 2014, 2016.
5. Post-doctoral Fellowship (NIH, NIGMS), 2012

Patent:

“Inventing treatment of cancer with complex organic-inorganic pigment composition” (October 22, 2013 (US patent # 8, 563, 595) (jointly with Dr. Chianelli).

Current Research Support:

1R01AI095667-01 (NIAID, NIH)

Role: PI.

“Sphingolipid and Mechanism of Cyst Formation by *Giardia*” 07/01/2011-06/30/2016,
with no cost extension until 06/30/2017

Total amount: \$2.1 million.

The major focus of this project is to delineate the mechanisms by which giardial glucosylceramide transferase-1 (gGlcT1) regulate the cyst production by *Giardia*.

RCMI (NIMHD, NIH)

Border Biomedical Research Center

June 2014-May2019

Role: Director of Infectious Diseases and Immunology Cluster (PI: Dr. Robert Kirken)

The goal is to coordinate research on border related infectious diseases at UTEP.

Total amount: \$ 14.4 million

Past Research Support:

RCMI (NIMHD, NIH)

Border Biomedical Research Center

July 2009-June 2014

Role: Director of Infectious Diseases and Immunology Unit (PI: Dr. Diana Natalico)

The goal is to coordinate research on border related infectious diseases at UTEP.

Total amount: \$ 13.6 million

NIGMS, NIH

Role: PI

June 2007- May 2011

Sphingolipids as potential targets for anti-giardial therapy

Total amount: \$560, 000

The objective of the proposal was to investigate the role of sphingolipids in giardial differentiation.

NIGMS,NIH

Role: PI
June 2004-May 2007

“Phospholipid synthesis by *Giardia lamblia*, an early diverging eukaryote”
Total amount: \$460,000.

The goal of this project was to elucidate the phospholipid synthesis by a parasitic protozoan, *Giardia lamblia*.

NIGMS, NIH

Role: PI
June 2000-May 2003

“Phospholipid synthesis by *Giardia lamblia*, an early-diverging eukaryote”
Total Direct Cost: \$450,000

The goal of this project was to elucidate the phospholipid synthesis by a parasitic protozoan, *Giardia lamblia*.

NIAID, NIH (R29)

Role: PI
January 1994-December 2000
“GP49, The Major GPI Anchor Antigen of *Giardia lamblia*”
Total Direct Cost \$570, 000

The goal of this project was to isolate and characterize a non-variant surface antigen from *Giardia lamblia*.

NGMS, NIH (MBRS)

Role: PI
June 1995-May 1999

“Isolation and Characterization of Phosphatidylinositol (PI)-Specific phospholipase-C from *Giardia lamblia*”
Total amount: \$220, 000

The goal of this project was to characterize PI-PLC from *Giardia lamblia*.

NSF (Material Research Institute)

Role: Co-PI (PI: Dr. Felicia Manicu)
September 2007-August 2010
“Acquisition of a Confocal Raman/AFM Hybrid System”

Total amount: \$288, 000.

NSF (Material Research Institute)

Role: Co-PI (PI: Jeff Drucker)

September 1997-August 2000

“Acquisition of a Laser Scanning Confocal Microscope and an Atomic Force Microscope for Investigations in the Environmental, Life & Material Sciences”

Total amount: \$ 418,000.

Non-Federal Government Grants:

Coldwell Foundation (Texas). “Cholesterol, Fat and Colorectal Cancer”

Total amount: \$25, 000 (no overhead). Specific role: PI (November 2005-October 2006).

[The goal of this project is to delineate the role of role of dietary lipids on inducing colon cancer].

Tobacco Research Grant: University of Texas at El Paso. “Identification of lipid genes by microarray analysis”

Total amount: \$20, 000 (No overhead). Specific role: PI (September 2004-February 2005)

[The goal of this project was to identify lipid synthesis genes by microarray analyses that are up or down-regulated in patients suffering in colorectal cancer].

Current Members of the Laboratory:

Post-doctoral Fellows

Dr. Atasi Chatterjee

Dr. Jennifer Apadoca (part time)

Doctoral Student

Ms. Vanessa Enriquez

Mr. Brian Grazeda (jointly with Drs. Almeida and VerBerkmoes)

Undergraduates

Mr. Chris Salazar (Graduated in December 2016).

Mr. Miguel Chi (RISE student)

Mr. Paval Gonzalez (Special Problem)

Mr. Jeremy Silva (Special Problem)

Ms. Breanna Pence (BRIDGES)

Ms. Norma Daphne Cervantes (Special Problem)

Doctoral thesis supervised:

Mr. Trevor Duarte (Ph.D.) 2014. Global sphingolipid profile of *Giardia lamblia* during stage differentiation: The influence of sphingomyelin abundance on cyst viability. Current position: Post-doctoral Fellow, University of Texas at El Paso.

Mr. Tavis L. Mendez (Ph.D.). 2013. “*Giardia lamblia*: Regulation of cyst production by glycosphingolipids.” Current position: Post-doctoral Fellow, University of Texas at El Paso.

Mr. Debarshi Ray (Ph.D.). 2012. “Arachidonic acid signaling in breast cancer cells”. Current Position: Post-doctoral Fellow, Mayo Clinic, Rochester, MN.

Ms. Mayte Yichoy (Ph. D. student). 2009. “Giardial lipidomics”. Post-doctoral Researcher, Texas A & M University, College Station, TX.

Ms. Yunuen Hernandez (Ph.D. student). 2007. “Sphingolipids as novel targets for anti-giardial therapy”. Current Position, research Associate, NIH.

Mr. Raymond Jones (Ph.D. student). Graduated in 2005. “Phospholipid remodeling ion colon cancer cells.” Research and Development, Ventana Medical System, Tucson, AZ.

Post-doctoral fellow supervised:

Dr. Trevor Duarte (2014-)

Dr. Tavis Mendez, Ph.D. (post-doctoral fellow, 2013-).

Dr. Leobardo Martinez, Ph.D. (post-doctoral Fellow, supported by CONNACYT, Mexico, 2013-).

Dr. Atasi De Chatterjee, Ph.D. (post-doctoral fellow, 2009-2013).

Dr. Suparna Ray, Ph.D. (post-doctoral researcher, 2005-2008).

MS thesis supervised

Cynthia Castillo, Received MS Degree in 2002 on “Internalization and Trafficking of membrane phospholipids by *Giardia lamblia*”

Current position: Medical Student, Bastyr University, Seattle, WA.

Heather Arredondo, Received Master Degree in 2002 on “Phospholipid Remodeling in *Giardia lamblia*”

Current Position: Research Assistant, Baylor College of Medicine, Houston, TX.

Luis Adel-Alvarez, Received MS Degree in Biology in 2002 on “Phospholipid Remodeling in cultured colonic epithelial cells”

Current Position: Dr. Adel-Alvarez is an oncologist in Puebla Medical Center, Puebla, Mexico.

Sandra Macias, Received MS in 2005 on “Possible interactions between Phospholipase A₂s and COX-2”

Current Position: Physician, El Paso, TX.

Duran DeBons: Received MS Degree in 2014 on “Sphingolipid metabolism in *Entamoeba invadens*.”

Current position: No information

Monica Delgado: Received MS degree in 2015 on Serine palmitoyltransferase and encystation by *Giardia*.

Current position: Doctoral student, Biomedical Engineering, University of Texas at El Paso.

Visiting Scientist Supervised:

Dr. Mathias Marti (1999-2000); Dr. Marti was supported by Roche Pharmaceuticals (Switzerland). Current affiliation: Assistant Professor, Harvard School of Public Health, Boston, MA.

General Teaching Areas:

Undergraduate: Microbiology, Microbial Physiology, Biochemistry, Microbial Pathogenesis, Microorganism and Diseases, General Biology, Membrane Biology, Molecular and Cellular Biochemistry, Macromolecules, Biochemical Techniques

Graduate (MS and doctoral): Molecular Parasitology, Membrane Biology, Synthesis and Degradation of Macromolecules (Biochemistry), Receptor Biology, Cell Physiology, Special Topics on Cell Molecular Biology

Committees (2011-2016):

University

Chair: University Research Initiative Committee (2009-2011)
Chair: Veterinarian Search Committee (2013)
Member: Animal Program Committee (2011-2012)
Member: Research Budget Committee (2011-2011)
Member: Faculty Senate Student Grievance Committee (2011-13)
Member: IACUC Committee (alternate) (2016-)

College of Science

Tenure and Promotion Committee (2011-2014).
Advisor, Microbiology SACS Committee (2011-).
Committee member for SACS (Biochemistry and Microbiology)
Committee member, IACUC (alternate 2016-)

Department

Member, Advisory Committee, Biological Sciences (2016-)
Faculty mentors for Drs. Giliuo Francia and Hugues Ouellet (Biological Sciences).
The Score Grant Mentor for James Li (Chemistry)
Director, Infectious Disease and Immunology Cluster, BBRC
Chair, the Search Committee on Ecologist of Infectious Disease (2015-16).
Member: the Search Committee for Human Diseases (2016-Chair: Dr. Marc Cox).
Committee Member for Organizing Committee of the Second Biomedical Research Center Symposium, BBRC, UTEP (2017) (Chair-Dr. Rosa Maldonado)

PUBLIC SERVICE

Recruitment speaker, Mission Early College, El Paso, TX 2011, 2012, 2013;
El Paso Community College, 2008-

Invited Speaker (Selected from a total number of 37 presentations from the national and international meetings):

“Trafficking and Remodeling of Exogenous Phospholipids by *Giardia lamblia*, an Early-Diverging Eukaryote”. Anno 2000: Symposium on Lipid Milestone. University of Utrecht, Utrecht, Netherlands. October 26-29, 2000.

“*Giardia lamblia*: Molecular and Cell Biology of Lipids”. Symposium on “Amitochondriates” –2004: *Entamoeba*, *Trichomonas*, *Giardia* Meeting. Marine Biological Laboratory, Woods hole, MA. September, 2004.

“Ceramide Endocytosis and Metabolism by *Giardia*”. International Symposium on Anaerobic Protist, Sardinia, Italy, September 2005.

“Genomic and molecular analyses reveal stage-specific regulations of sphingolipid biosynthesis genes in *Giardia lamblia*” II International Symposium on *Giardia* and *Cryptosporidium*, Morelia, Michuacán, Mexico, 2007.

“Digging for the Truth: how sphingolipid Metabolic Genes Regulate the Life-Cycle of an Intestinal Protozoan, *Giardia lamblia*”. Department of Biology, Texas Tech University, Lubbock, TX. October, 2007.

“Sphingolipids as Potential Targets for Anti-Parasitic Therapy”. 11thRCMI International Symposium on Health Disparities and Infectious Diseases. December 1-4, 2008. Honolulu, Hawaii.

“Sphingolipids: are they critical for encystation”? 65th Annual Meeting of American Chemical Society (ACS). November 3-6, 2009. El Paso, TX.

“Giardial Encystation: Stories told by sphingolipids and lipid rafts. Meeting on Anaerobic Protists.” UCLA, September, 2012.

“Understanding the encystation by *Giardia*.” Invited speaker: Bioinformatics Seminar Series. University of Texas at El Paso, October, 2013.

“Metabolic shift from ceramide to sphingomyelin: Is it critical for cyst viability and excystation of *Giardia*?” International *Giardia* and *Cryptosporidium* Conference, Uppsala, Sweden, May 2014.

Symposium speaker: 2nd Infectious Disease Symposium, Texas Tech Health Science Center, El Paso (November 3, 2014).

Keynote Speaker, DHS Bridge and RISE Program, El Paso Community College, El Paso, TX (July 18, 2014).

Invited speaker: Department of Pathology, University of New Mexico (July 7, 2014) (Host: Dr. Aaron Neumann).

Invited Speaker, Center for Drug Design, University of Minnesota, Minneapolis (November 16, 2016).

Publications


Robles-Martinez, L., Mendez, T.L., Apodaca, J. and **Das, S.** (2016). Glucosylceramide transferase in *Giardia* preferentially catalyzes the synthesis of galactosylceramide during encystation. [Mol Biochem Parasitol.](#) (in press)

Mendez, T. L, De Chatterjee, A., Duarte, T., De Leon, J., Robles-Martinez, L., **Das, S.** (2015). Sphingolipids, lipid Rafts, and giardial encystation: the show must go on. [Curr Trop Med Rep](#) 2(3):136-143.

De Chatterjee, A., Mendez, T. L., Roychowdhury, S., **Das, S.** (2015). The Assembly of GM1 Glycolipid and Cholesterol-Enriched Raft-Like Membrane Microdomains is Important for Giardial Encystation. [Infection and Immunity](#) 83, 2030-42.

Gamboa Varela, J., De Chatterjee, A., Guevara, P., Ramirez, V., Metta-Magaña, A.J, Villagrán, D., Varela-Ramirez, A., **Das, S.**, Nuñez, J.E. (2014). Synthesis, characterization, and evaluation of cis-diphenyl pyridineamine platinum(II) complexes as potential anti-breast cancer agents. [J. Biol. Inorg. Chem.](#)19, 967-79.

Das, S., Robles-Martinez, L and Ray, S. (2014). Phospholipid remodeling and eicosanoid signaling in colon cancer cells. [Ind. J. Biochem. Biophys](#) (Special issue on cell signaling and cancer). 51,512-19.

Mendez, T. L., De Chatterjee, A., Duarte, T. T., Roy, D., Robles-Martinez, L., Maldonado, R.A., Roychowdhury, S., Almeida, I. C., and **Das, S.** (2013) Glucosylceramide transferase activity is critical for encystation and viable cyst production by an intestinal protozoan, *Giardia lamblia*. [J Biol Chem.](#)  288, 16747-60.

Yichoy, M., Duarte, T.T., De Chatterjee, A., Mendez, T.L., Aguilera, K.Y., Roy, D, Roychowdhury, S., Aley, S.B. and **Das, S.** (2011) Lipid metabolism in *Giardia*: a post-genomic perspective. [Parasitology](#) 138, 267-278.

Yichoy, M., Nakaysu, E., De Chatterjee, A., Aley, S.B., Almeida, I.C., **Das, S.** (2011) Mass spectrometric analyses of phospholipids and fatty acids in *Giardia lamblia* in “*Giardia*: A Model organism” (Lujan, H and Staffan, S. Eds). Springer, New York, pp 111-125. (<http://www.springer.com/biomed/virology/book/978-3-7091-0197-1>)

Staake, M, Chauhan, J., Zhou, D., Shanker, A., De Chatterjee, A., **Das S** and Patterson, S.E. (2010) Phosphonoxins III: Synthesis of α -Aminophosphonate Analogs of Antifungal Polyoxins with Anti-*Giardia* Activity. [Org. Lett.](#) 12, 4596-4599

Yichoy, M., Nakayasu, E.S., Shpak, M., Aguilar, C., Aley, S. B., Almeida, I.C., and **Das, S.** (2009) Lipidomic analysis reveals that phosphatidylglycerol and phosphatidylethanolamine are newly generated phospholipids in an early-divergent protozoan, *Giardia lamblia*. *Mol. Biochem. Parasitol.* 165, 67-78

Castillo, C., Hernandez, Y., Roychowdhury, S., and **Das, S.** (2009) Cytoskeleton-Based Lipid Transport in a Parasitic Protozoan, *Giardia lamblia* in *Giardia and Cryptosporidium: from Molecules to Disease* (Ortega-Pierres et al. Eds). CAB International. Oxfordshire, UK. pp 292-308 (<http://bookshop.cabi.org/?page=2633&pid=2109&site=191>)

Hernandez, Y., Shpak, M., Duarte, T.T., Mendez, T.L., Maldonado, R.A, Roychowdhury, S., Rodrigues, M.L., **Das, S.** (2008) Novel role of sphingolipid synthesis genes in regulating giardial encystation. *Infect Immun.* 76, 2939-49.

Hernandez, Y., Zamora, G., Ray, S., Chapoy, J., Chavez, E., Valverde, R., Williams, Aley, S.B. and Das, S. (2007) Transcriptional analysis of three major putative phosphatidylinositol Kinase genes in a parasitic protozoan, *Giardia lamblia*. *J. Euk. Microbiol.* 54, 29-32

Hernandez, Y., Castillo, C., Roychowdhury, S., Hehl, A., and **Das, S.** Clathrin-dependent pathways and the cytoskeleton-network are involved in ceramide endocytosis by a parasitic protozoan, *Giardia lamblia*. *Int. J. Parasitology.* 37, 21-32. 2007 (cover page).

Montoya V, Gutierrez C, Najera O, Leony D, Varela-Ramirez A, Popova J, Rasenick, M.M., **Das, S.**, Roychowdhury, S. (2007) G protein betagamma subunits interact with alphabeta- and gamma-tubulin and play a role in microtubule assembly in PC12 cells. *Cell Motil Cytoskeleton.* 64, 936-950

Roychowdhury, S., Martinez, L., Salgado, L., **Das, S.**, Rasenick, M.M. (2006) G protein activation is prerequisite for functional coupling between $G\alpha/G\beta\gamma$ and tubulin/microtubules. *Biochem Biophys Res Commun.* 340, 441-448

Pope-Delatorre, H., **Das, S.**, Irwin, L.N. (2005) Uptake of [3 H]-Gangliosides by *Giardia lamblia*. *Parasitol. Res.* 96, 102-106.

Jones, R., Alfonso-Alvarez, L., Rascon-Alvarez, O., Broaddus, R., and **Das, S.** (2003). Arachidonic acid and colorectal carcinogenesis. *Mol. Cellu. Biochem.* 253, 141-149.

Das, S., Stevens, T., Castillo, C., Villasenor, A., Arredondo, H., and Reddy, K. Lipid metabolism in mucus-dwelling amitochondriate protozoa. *Int J Parasitol.* 32, 655-675, 2002

Das, S. Castillo, C., and Stevens, T. Phospholipid remodeling/generation by *Giardia*: the role of the Lands Cycle. [Trends Parasitol](#) 17, 316-319, 2001 (highlighted in the cover page)

Subramanian A. B., Navarro, S., Carrasco, R., Marti, M., and **Das, S.** (2000). Role of Exogenous inositol and phosphatidylinositol in Glycosylphosphatidylinositol anchor synthesis of GP49 by *Giardia lamblia*. [Biochim. Biophys. Acta](#) 1483, 69-80.

Gibson, G. M., Ramirez, D and **Das, S.** (1999). *Giardia lamblia*: Incorporation of free and conjugated fatty acids into glycerol-based phospholipids. [Exp. Parasitol.](#) 92, 1-12 (Cover Page).

Das, S., Schteingart, C., Hoffman, A. F., Reiner, D. S., Aley, S., and Gillin, F. D. (1997). *Giardia lamblia*: Carrier mediated bile acid uptake and release. [Exp. Parasitol.](#) 87, 133-141.

Stevens, T., Gibson, G., Allison, M., Adam, R., and **Das, S.** (1997). Uptake and cellular localization of exogenous lipids by *Giardia lamblia*, a primitive eukaryote. [Exp. Parasitol.](#) 86, 133-143.

Das, S., and Gillin, F.D. (1996). *Giardia lamblia*: Increased UDP-N-acetyl-D-glucosamine and UDP-N-acetyl-D-galactosamine transferase activities during encystation. [Exp. Parasitol.](#) 83, 19-29.

Gillin, F. D., Reiner, D. S., Hetsko, M. L., **Das, S.**, Ward, H. D., Faubert, G. M., Meng, T. C, McCaffery, J. M., Aley, S. B., and Que, X (1996). Regulation of *Giardia lamblia* encystation and excystation. *New Dimension in Parasitology. Acta Parasitologica Turcica.* 175-182 (Suppl.1). (Non-refereed).

Das, S., Traynor-Kaplan, A., Kachintorn, U., Aley, S., and Gillin, F. D. (1994). GP 49, an Invariant GPI Anchored Antigen of *Giardia lamblia* in Symposium. [Brazi J. Med.Biol. Res.](#) 27, 463.

Reiner, D. S., Hetsko, M. L., **Das, S.**, Ward, H. D., McCaffery, M., and Gillin, F.D. (1993). *Giardia lamblia*: Absence of Cyst Antigen and Reduced Secretory Vesicle Formation and Bile Salt Uptake in an Encystation Deficient Subline. [Exp. Parasitol.](#) 77, 461,

Das, S., Reiner, D. S, and Gillin, F. D. *Giardia* and its Environment in "New and Emerging Infectious Diseases" (Osburn, B., Castrucci, G., and Schore, C., Eds.) pp. 301-308, UC Davis, 1992 (Non-refereed).

Das, S., Traynor-Kaplan, A., Reiner, D. S., Meng, T. C., and Gillin, F. D. (1991). A Surface Antigen of *Giardia lamblia* with a Glycosylphosphatidylinositol Anchor. [J. Biol. Chem.](#) 266, 21318.

Das, S and Gillin, F.D. (1991). Chitin Synthase in Encysting *Entamoeba invadens*. [*Biochem. J.*](#) 280, 641, 1991.

Gillin, F. D., Cooper, R. W., Reiner, D. S., and **Das, S.** (1991). Secretary Defenses Against *Giardia lamblia*. [*Exp Med Biol.*](#) 310:227-33.

Gillin, F. D., **Das, S.** and Reiner, D. S. Non-Immune Secretary Defense against *Giardia lamblia*. *Giardiasis* (Meyer, E. A., Ed.) Elsevier Press. 1990. (Book Chapter).

Das, S., Reiner, D. S., Zenian, J., Hogan, D. L., Koss, M. A., Wang, C. S., and Gillin, F. D. (1988). Killing of *Giardia lamblia* Trophozoites by Human Intestinal Fluid in vitro. [*J. Infec. Dis.*](#) 157, 1257.

Glew, R.H., Saha, A.K., **Das, S.** and Remaley, A.T. (1988) Biochemistry of *Leishmania* Species. *Microbiological Reviews*, 52, 412.

Das, S., Saha, A.K., La Marco, K., Nerad, T., Basu, A., and Glew, R. H. (1987). Characterization of β -Glucosidase from *Naegleria fowleri*. [*J. Protozool.*](#) 34, 68.

Gillin, F. D., Reiner, D. S., Gault, M. J., Douglas, H., **Das, S.**, Wunderlich, A., and Sauch, J. (1987). Encystation and Expression of Cyst Antigens by *Giardia lamblia* in vitro. [*Science*](#) 235, 1040.

Das, S., Saha, A.K., Remaley, A.T., Kajioshi, M., Glew, R. H., and Gottlieb, M. (1986). Hydrolysis of Phosphoproteins and Inositolphosphates by Cell surface Phosphatase of *Leishmania donovani*. [*Mol. Biochem. Parasitol.*](#) 20, 143.

Das, S., Saha, A. K., Mukopadhay, N. K., and Glew, R. H. (1986). A cyclic-Nucleotide Independent Protein Kinase in *Leishmania donovani*. [*Biochem. J.*](#) 240, 641.

Saha, A. K., Dowling, J. N., LaMarco, K.L., **Das, S.**, Remaley, A.T., Olumu, N and Glew, R. H. (1985). Properties of an Acid phosphatase from *Legionella micdadei* which blocks superoxide anion production by human neutrophils. [*Arch. Biochem. Biophys.*](#) 243, 150.

Saha, A. K., **Das, S.**, Glew, R. H., and Gottlieb, M. (1985). Resistance of Leishmanial Phosphatase to Inactivation by oxygen Metabolites. [*J. Clin. Microbiol.*](#) 260, 29, 1985.

Remaley, A. T., **Das, S.**, Campbell, P. I., LaRocca, G. M., Pope, M.T., and Glew, R. H. (1985). Characterization of *Leishmania donovani* Acid Phosphatase. [*J. Biol. Chem.*](#) 260, 880.

Olumu, N., Martinez, A. J., La Marco, K. L., Nerad, T. A., Saha, A. K., **Das, S.**, and Glew, R. H. (1985) Demonstration of various Hydrolases and preliminary Characterization of Acid phosphatase in *Naegleria fowleri*. *J. Protozool.* 33, 317.

Ghosh, K., **Das, S.**, Chatterjee, R. K., Mukherjee, J. (1983). Changes of histone pattern during skin carcinoma induced by methylchloranthene. *Ind. J. Exp. Biol.* 21. 110. 1983.

Das, S., Datta S. C., Guin, A. K., Dey, S., and Sengupta, D. (1981). Role of impipramine and desipramine in counteracting diazepam induced changes of adenosinetriphosphatase and cholinesterase of human fetal brain. *Ind. J. Exp. Biol.* 19, 738, 1981.

Das, S., Dey, S., Datta, S. C., Guin, A. K., and Sengupta, D. (1979). Developmental pattern of monoamine oxidase activity in cerebral cortex of human fetal brain. *IRCS Med. Sci.* 7, 613.

Das, S., Dey, S., Datta, S. C., Guin, A. K., and Sengupta, D. (1979). In vitro effects of diazepam, desmethyldiazepam, and nitrazepam on ATPase activity of human fetal brain. *Ind. J. Exp. Biol.* 17, 895.

Das, S., Datta, S. C., Guin, A. K., Dey, S., and Sengupta, D. (1979) Studies on the in vivo effect of various benzodiazepines on cholinesterase activity of human fetal brain. *Curr. Sci.* 20, 979.

Guin, A. K., Dutta, P. K., Datta, S. C., **Das, S.**, and Sengupta, D (1978). Effect of different antiestrogen on glycogen breakdown of cycling rat uterus during estrous and proestrous phases. *Ind. J. Biochem. Biophys.* 15, 319