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**EDUCATION:** Ph. D., Immunology, 1989, University of California, San Francisco.  
B. S. Honors, Biochemistry, 1984, PA State University, State College, PA.

**PROFESSIONAL EXPERIENCE:**

- 2010 - present Professor & Chair of Biology, Point Loma Nazarene University (PLNU)
- 2002-2009 Assistant and Associate Professor of Biology, PLNU
- 2004-2010 Director of the HHMI Undergraduate Science Education Grant, PLNU
- 2000-2009 Director of SEASAND, the San Diego California Subject Matter Project in Science (CSMP). The project worked with local school districts to provide professional development to secondary teachers of science.
- 2000-2002 Science Academic Coordinator, Center for Research in Educational Equity, Assessment and Teaching Excellence (CREATE), UCSD. (50% time) Worked with local school districts to provide professional development to K-12 teachers in science.
- 2000-2002 Associate Project Scientist, Dept. of Biology, UCSD. (50% time) Basic research in immunology.
- 1994-2000 Assistant Research Scientist, Dept. of Biology, UCSD. Basic research in immunology.
- 1990-1994 Post-doctoral Fellow, UCSD: Basic research in immunology.

**TEACHING EXPERIENCE:**

I have experience teaching a variety of students: under-represented high school students taking a non-major's Biology course, college students taking non-majors Biology or upper-division Biology courses, master's students taking graduate-level Biology courses, and PA students taking Immunology. My areas of expertise are Genetics, Research Methods, and Immunology.

**GRANTS:**

- NSF SSTEM**, co-PI, "Scholarships to Support STEM majors Computational Sciences Minors," \$576,750, 2015-2020
- NSF**, PI, "B cell development and activation in *Danio rerio*," \$466,000, 2011-2015.
- UCOP California Subject Matter Project in Science**, PI, \$712,500 total from 2001-2010.
- NSF Major Research Instrumentation Award**, PI, \$213,740, 2006-2008
- HHMI Undergraduate Science Education**, PI, \$800,000, 2004-2008
- NIH R29 First Award**, PI, \$535,506, 1995-2000
- UCSD Cancer Research Coordinating Committee Grant**, PI, \$30,000, 1994-1995
- NIH Post-doctoral Fellowship**, 1991-1993

**REVIEWER:**

National Science Foundation

**MEMBER:**

American Association for the Advancement of Science  
American Association of Immunologists

**PUBLICATIONS:**Scientific Articles:

Botts R.T., **Page D.M.**, Bravo J.A., Brown M.L., Castilleja C.C., Guzman V.L., Hall S., Henderson J.D., Kenney S.M., Lensink M.E., Paternoster M.V., Pyle S.L., Ustick L., Walters-Laird C.J., Top E.M., Cummings D.E. (2023) Polluted wetlands contain multidrug-resistance plasmids encoding CTX-M-type extended-spectrum  $\beta$ -lactamases. *Plasmid* 126:102682.

**Page D.M.**, V. Wittamer, J.Y. Bertrand, K.L. Lewis, D.N. Pratt, N. Delgado, S.E. Schale, C. McGue, B.H. Jacobsen, A. Doty, Y. Pao, H. Yang, N.C. Chi, B.G. Magor and D. Traver. (2013) An Evolutionarily Conserved Program of B Cell Development and Activation in Zebrafish. *Blood*. 122: e1-e11.

Onami, T.M., M.-Y. Lin, **D.M. Page**, S.A. Reynolds, C.D. Katayama, J.D., Marth, T. Irimura, A. Varki, N. Varki, N., and S.M. Hedrick. (2002) The generation of mice deficient for the macrophage galactose and N-acetylgalactosamine specific lectin: limited role in lymphoid and erythroid homeostasis, and evidence for multiple lectins. *Molecular and Cellular Biology*. 14: 5173.

Li, R., and **D. M. Page** (2001) Requirement for a complex array of co-receptors in the negative selection of autoreactive thymocytes in vivo. *J. Immunol.* 166: 6050-6056.

**Page, D.M.** (1999) Regulation of thymic selection and autoreactivity by co-receptors involved in T cell activation. *J. Immunol.*, 163:3577.

Priatel, J.J., D. Chui, N. Hiraoka, C.J.T. Simmons, K.B. Richardson, **D.M. Page**, F. Fukuda, N.M. Varki, and J.D. Marth. (2000) The ST3Gal-I sialyltransferase controls CD8+ T lymphocyte homeostasis by modulating O-glycan biosynthesis. *Immunity* 12:273.

**Page, D.M.**, Roberts, E.M., Peschon, J.D., and Hedrick, S.M. (1997) TNF receptor-deficient mice reveal startling differences between several modes of thymocyte negative selection. *J. Immunol.*, 160:120-133.

**Page, D. M.**, Y. Tokugawa, J. Silver, and C. L. Stewart. (1997) Role of Thy-1 in T cell development. *J. Immunol.* 159:5285-92.

Foy, T.M., **Page, D.M.**, Waldschmidt, T.J., Schoneveld, A., Laman, J.D., Masters, S.R., Tygrett, L., Ledbetter, J.A., Aruffo, A., Claassen, E., Xu, J. C., Flavell, R.A., Oehen, S., Hedrick, S.M., and R.J. Noelle. (1995) An essential role for gp39, the ligand for CD40, in thymic selection. *J. Exp. Med.*, 182:1377-1388.

**Page, D.M.**, Alexander, J., Snoke, K., Appella, E., Sette, A., Hedrick, S.M., and H. Grey. (1994) Negative selection of CD4 $^{+}$ CD8 $^{+}$  thymocytes by T cell receptor peptide antagonists. *Proc. Nat. Acad. Sci., USA*, 91: 4057.

**Page, D.M.**, Kane, L.P., Allison, J.P., and S.M. Hedrick. (1993) Two signals are required for negative selection of CD4 $^{+}$ CD8 $^{+}$  thymocytes. *J. Immunol.* 151:1868.

**Page, D.M.**, Gold, M.R., Fahey, K.A., Matsuuchi, L., and DeFranco, A.L. (1991) Mutational analysis of antigen receptor regulation of B lymphocyte growth: evidence for involvement of the phosphoinositide signaling pathway. *J. Biol. Chem.* 266:5563.

- Page, D.M.**, and A.L. DeFranco. (1990) Antigen receptor-induced cell cycle arrest in WEHI-231 B lymphoma cells depends on the duration of signaling before the G1 phase restriction point. *Mol. Cel. Biol.* 10:3003.
- Page, D.M.**, and A.L. DeFranco. (1988) Role of phosphoinositide-derived second messengers in mediating anti-IgM-induced growth arrest of WEHI-231 B lymphoma cells. *J. Immunol.* 140: 3717.

Review Articles:

- Page, D.M.**, Kane, L.P., Onami, T.M., and Hedrick, S.M. (1996) Cellular and Biochemical requirements for thymocyte negative selection. *Seminars in Immunology*, 8:69-82.
- Ruppert, J., Franco, A., Alexander, J., Snoke, K., Ishioka, G.Y., **Page, D.M.**, Hedrick, S.M., Adorini, A., Grey, H.M., and A. Sette. (1995) MHC blocking peptides and T cell receptor antagonists: Novel paths to selective immunosuppression? *Chemical Immunology*, 60:61-78.
- DeFranco, A.L., Gold, M.R., Hempel, W.M., Law, D., **Page, D.M.**, Matsuuchi, L., and V. Chan. (1993) Signal transduction by the B-cell antigen receptor (mIg). Advances in Molecular and Cellular Immunology, Vol. 1A, ed: B. Singh, JAI Press, Inc., Greenwich, CT, p. 31.
- DeFranco, A.L., **Page, D.M.**, Blum, J.H., and M.R. Gold. (1989) Signal transduction by the antigen receptor of B lymphocytes. Cold Spring Harbor Symposia on Quantitative Biology, Volume LIV, p. 733.
- DeFranco, A.L., **Page, D.M.**, and M.R. Gold. (1989) Signal transduction by the antigen receptor of B lymphocytes: Phosphoinositide breakdown and growth control. Advances in Regulation of Cell Growth. Vol. 1: Regulation of cell growth and activation, ed: J.J. Mond, J. C. Cambier, and A. Weiss, Raven Press, Ltd., NY, p. 59.

Recent unpublished products:

Botts, R.T., **Page, D.M.**, Apffel, B.A., Walters, C.J., Davidson, K.E., Echols, R.S., Geiger, M.R., Guzman, V.L., Haase, V.S., Montana, M.A., La Chat, C.A., Mielke, J.A., Mullen, K.L., Virtue, C., Brown, C.J., Top, E.M., and Cummings, D.E. Escherichia coli plasmid pTRE-2011, complete sequence, NCBI,

<https://www.ncbi.nlm.nih.gov/nuccore/ON943059.1/>

Botts, R.T., **Page, D.M.**, Bravo, J.A., Brown, M.L., Castilleja, C.C., Guzman, V.L., Paternoster, M.V., Pyle, S., Ustick, L., Walters, C.J., Hall, S., Henderson, J.D., Kenney, S.M., Brown, C.J., Top, E.M., Cummings, D.E. and M. Lensink. Escherichia coli strain TREC9 plasmid pTREC9, complete sequence, NCBI,  
<https://www.ncbi.nlm.nih.gov/nuccore/MN158992.1>

Botts, R.T., **Page, D.M.**, Bravo, J.A., Brown, M.L., Castilleja, C.C., Guzman, V.L., Paternoster, M.V., Pyle, S., Ustick, L., Walters, C.J., Hall, S., Henderson, J.D., Kenney, S.M., Brown, C.J., Top, E.M., Cummings, D.E. and M. Lensink. Escherichia coli strain TREC9 plasmid pTREC8, complete sequence, NCBI,  
<https://www.ncbi.nlm.nih.gov/nuccore/MN158991.1>

Botts, R.T., **Page, D.M.**, Bravo, J.A., Brown, M.L., Castilleja, C.C., Guzman, V.L., Paternoster, M.V., Pyle, S., Ustick, L., Walters, C.J., Hall, S., Henderson, J.D., Kenney,

S.M., Brown, C.J., Top, E.M., Cummings, D.E. and M. Lensink. Escherichia coli strain TREC9 plasmid pTREC4, complete sequence, NCBI,

<https://www.ncbi.nlm.nih.gov/nuccore/MN158990.1>

**AWARDS:**

San Diego Science Alliance Sustainable Program Partnership Award for Perspectives on Science Seminar Series at PLNU, 2008

Award for Excellence in Science Education, San Diego Science Educators Association, 2004