

ROBERT DeSALLE
CURATOR AND PROFESSOR
DIVISION OF INVERTEBRATE ZOOLOGY

HIGHEST DEGREE EARNED

Ph. D.

AREA OF SPECIALIZATION

Entomology, genomics, fruit flies

EDUCATIONAL EXPERIENCE

Ph.D. in Biology, Washington University, St. Louis, MO, 1984

B.A. in Biological Sciences, University of Chicago, 1976

PREVIOUS EXPERIENCE IN DOCTORAL EDUCATION

FACULTY APPOINTMENTS

Adjunct Appointments

Yale (1986-1999)

Columbia (1997-Present)

New York University (1995-Present)

CUNY (2000-Present)

University of Connecticut (1999-2004)

Cornell (1997-2001)

COURSES TAUGHT

Introduction to Biology, Undergraduate level, New York University, AY: 2004-2005

Molecular Mechanisms- Animals, Graduate level, New York University, AY: 2004-2005

Bioinformatics, Graduate level, New York University, AY: 2004-2005

Introduction to Evolution, Graduate level, New York University, AY: 2004-2005

Evolution, Graduate level, Columbia University, AY: 2004-2005

Evolution and Journalism, Graduate level, Columbia University, AY: 2004-2005

GRADUATE COMMITTEES

Over 100 in 17 years and 50 the past 10

GRADUATE ADVISEES

Sam Crane (CUNY)

Jeff Roenfeld (NYU)

Craig Stargert (Columbia U) *

Chanda Bennet (Columbia University)*

Eric Stiner (CUNY)

Anthony Deo (NYU) *

Francisca Almeida (NYU)*

Mike Friedman (CUNY)

CUNY teaching fellow

NIH funded

NSF fellow

Columbia University funded

CUNY teaching fellow

NSF funded

NYU teaching fellow

CUNY teaching fellow

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|---|-----------------------------------|
| Kurt Lineau (NYU)* | NIH graduate fellow |
| Ryan Kelly (Columbia)* | NSF funded |
| Al Phillips (Columbia) | AMNH fellow |
| Mike Rusello (Columbia University)* | WCS DIG / CERC funded |
| Chelsea Specht (New York University)* | NSF funded |
| Evon Hekalla (Columbia University)* | EPA Fellow |
| Mike Yudell (City Univerity NY)* | CU School of Public Health funded |
| Rocco Rorandelli (NYU)* | NYU funded |
| Martine Zilversmit (NYU)* | NYU funded |
| Paul Planet(Columbia University)* | Columbia University funded |
| Indira Neil Sarkar (Columbia University)* | Columbia University funded |
| Eugenia Narro (Columbia University)* | NSF funded |
| Julian Stark (New York University)* | NYU funded |
| Celeste Durando (City Univerity NY)* | NSF funded/ AMNH Fellow |
| Valerie Schawaroch (City Univerity NY)* | NSF DIG / AMNH Fellow |
| James Bonacum (Yale University)* | AMNH Fellow |
| James Remsen (New York University)* | NSF DIG / NYU funded |
| Yael Wyner (New York University)* | NSF DIG / NYU funded |
| Mary Egan (Fordham University)* | Fordham University funded |
| Phaedra Doukakis (Yale University)* | EPA Fellow |
| Paul Goldstein (University of Connecticut)* | EPA Fellow |
| Joe Thornton (Columbia University)* | NSF DIG / CERC funded |
| John Gatesy (Yale University)* | NSF DIG / NSF funded |
| Robin Absher (Yael University)* | NSF DIG / Yale funded |
| Charles Wray (Yale University)* | NASA fellow |
| Ranhy Bang (Cornell University)* | Cornell funded / AMNH fellow |
| Richard Baker (Yale University)* | NSF DIG / AMNH fellow |
| Howard Rosenbaum (Yale University)* | WCS / CBC DIG / AMNH funding |

RESEARCH GRANT SUPPORT

FEDERAL SOURCES

- National Science Foundation, Dissertation Research: The Use of Cladistic Techniques to Identify the Genetic Determinants of Phenotypes, \$3,880, July 1, 2005-December 31, 2006.
- National Science Foundation, VCA: Virtual Center for Plant Evolutionary Genomics, \$686,529, October 1, 2004-September 30, 2009.
- National Institutes of Health, Supplement: Genetic Transfer in the Evolution of Infectious Disease, \$61,608, September 1, 2004-January 31, 2006.
- National Science Foundation, Dissertation Research: Connectivity and Intra-Population Structure of Western South Atlantic Green Sea Turtle (*Chelonia mydas*) Foraging Populations, \$5,200, July 15, 2004-June 30, 2005.
- National Science Foundation, Collaborative Research: Assembling the Tree of Life: An Integrated Approach to the Origin and Diversification of Protostomes, \$146,676, January 1, 2004-December 31, 2005.

- National Science Foundation, Integrative Studies of Wolbachia-Eukaryotic Interactions: Genomes to Communities and Back, \$154,589, September 1, 2003- August 31, 2005.
- National Institutes of Health, Supplement: Genetic Transfer in the Evolution of Infectious Disease, \$13,098, February 1, 2003-January 31, 2006.
- National Science Foundation, UMEB: Introducing Students to Conservation Genetics and Environmental Science: A Collaboration Among St. Francis College, Medgar Evers College and American Museum of Natural History, \$177,961, September 1, 2002-August 31, 2006.
- National Institutes of Health, Genetic Transfer in the Evolution of Infectious Disease, co-PI, Robert DeSalle, \$936,149, February 1, 2002-January 31, 2006.
- National Science Foundation, High Throughput Sequencing and the Phylogeny of Family Drosophilidae, \$367,221, February 1, 2002- January 31, 2006.
- National Science Foundation, Megafaunal Mammal Genetics and Extinction Dynamics in the Late Pleistocene: Testing the Hyperdisease Hypothesis, \$473,067, September 1, 2001-August 31, 2006.

NON-FEDERAL SOURCES

- Richard Lounsberry Foundation, Evaluating DNA Barcoding, \$325,000, 2004-2006.

RECENT ARTICLES IN REFEREED JOURNALS (2003-2008)

- Sarkar, N, Planet, P. and R. DeSalle. CAOS an automated program for determining diagnostics for DNA barcoding. *Molecular Ecology Notes*. 2008 (in press).
- Almeida, F, Leszczyniecka M, Fisher PB and DeSalle R., 2008. Examining ancient Inter-domain horizontal gene transfer. *Evolutionary Bioinformatics* (in press).
- Sarkar IN, Egan MG, Coruzzi G, Lee EK, DeSalle R. 2008. Automated simultaneous analysis phylogenetics (ASAP): an enabling tool for phylogenomics. [BMC Bioinf](#) 9:103.
- O'Grady P, Desalle R. 2008. Out of Hawaii: the origin and biogeography of the genus *Scaptomyza* (Diptera: Drosophilidae). [Biol Lett](#) 4(2):195-199.
- Garcia-España A, Chung PJ, Sarkar IN, Stiner E, Sun TT, Desalle R. 2008. Appearance of new tetraspanin genes during vertebrate evolution. [Genomics](#) 91: 326-334.
- DeSalle R. 2007. Phenetic and DNA taxonomy; a comment on Waugh. [Bioessays](#) 29(12):1289-1290.
- Rach J, Desalle R, Sarkar IN, Schierwater B, Hadrys H. 2008. Character-based DNA barcoding allows discrimination of genera, species and populations in Odonata. [Proc Biol Sci](#) 275(1632):237-247.
- Cibrián-Jaramillo A, Hahn WJ, DeSalle R. 2008. Development of microsatellite markers of the Mexican understory palm *Chamaedorea elegans*, cross-species genotyping, and amplification in congeners. [Mol Ecol Notes](#) [in press]
- Kao HT, Sturgis S, Desalle R, Tsai J, Davis D, Gruber DF, Pieribone VA. 2007. Dynamic regulation of fluorescent proteins from a single species of coral. [Mar Biotechnol](#) 9(6):733-746.
- DeSalle R. 2007. Phenetic and DNA taxonomy; a comment on Waugh. [Bioessays](#) 29(12):1289-1290.
- DeSalle R, Schierwater B. 2007. Key transitions in animal evolution. [Integr Comp Biol](#)

- 47(5):667-669.
- Schierwater B, DeSalle R. 2007. Can we ever identify the Urmetazoan? Integr Comp Biol 47(5):670-676.
- Gatesy J, DeSalle R, Wahlberg N. 2007. How many genes should a systematist sample? Conflicting insights from a phylogenomic matrix characterized by replicated incongruence. Syst Biol 56(2):355-363.
- Naro-Maciel E, Becker JH, Lima EH, Marcovaldi MA, DeSalle R. 2007. Testing dispersal hypotheses in foraging green sea turtles (*Chelonia mydas*) of Brazil. J Hered 98(1):29-39
- Chen Z, Schiffman M, Herrero R, DeSalle R, Burk RD. 2007. Human papillomavirus (HPV) types 101 and 103 isolated from cervicovaginal cells lack an E6 open reading frame (ORF) and are related to gamma-papillomaviruses. Virology 360(2):447-453.
- Chiu, J.C., E.K. Lee, M.G. Egan, I.N. Sarkar, G.M. Coruzzi, and R. DeSalle. 2006. OrthologID: automation of genome-scale ortholog identification within a parsimony framework. Bioinformatics 22(6):699-707.
- DeSalle R. 2006. Species discovery versus species identification in DNA barcoding efforts: response to Rubinoff. Conserv Biol 20(5):1545-1547.
- DeSalle R. 2006. What's in a character? Journal of Biomedical Informatics 39(1): 6-17.
- Birstein, V.J., G. Ruban, A. Ludwig, P. Doukakis, and R. DeSalle. 2005. The enigmatic Caspian Sea Russian sturgeon: how many cryptic forms does it contain? Systematics and Biodiversity 3:203-218.
- Bonacum, J., P.M. O'Grady, M. Kambysellis, and R. DeSalle. 2005. Phylogeny and age of diversification of the planitibia species group of the Hawaiian *Drosophila*. Mol Phylogenet Evol. Oct;37(1):73-82.
- Calcagnotto, D., A. Schaefer, and R. DeSalle. 2005. Relationships among characiform fishes inferred from analysis of nuclear and mitochondrial gene sequences. Molecular Phylogenetics and Evolution 36: 135-153.
- Chen, Z., M. Terai, L. Fu, R. Herrero, R. DeSalle, and R.D. Burk. 2005. Diversifying selection in human papillomavirus type 16 lineages based on complete genome analyses. J Virol. Jun 79(11):7014-23.
- Corthals, A. and R. DeSalle. 2005. An Application of Tissue and DNA Banking for Genomics and Conservation: The Ambrose Monell Cryo-Collection (AMCC). Syst Biol. Oct;54(5):819-23.
- DeSalle, R. 2005. Genetics at the brink of extinction. Heredity. Apr 94(4):386-7.
- DeSalle, R. 2005. Animal phylogenomics: multiple interspecific genome comparisons.. Methods Enzymol. 395:104-33.
- DeSalle, R., T.R. Gregory, and J.S. Johnston. 2005. Preparation of samples for comparative studies of arthropod chromosomes: visualization, in situ hybridization, and genome size estimation. Methods Enzymol. 395:460-88.
- DeSalle, R. M.G. Egan, and M. Siddall. 2005. The unholy trinity: taxonomy, species delimitation and DNA barcoding. Philosophical Transactions of the Royal Society, London - Biological Sciences, 360: 1905 – 1916
- Doukakis, P, V.J. Birstein, and R. DeSalle, R. 2005. Intraspecific structure within three caviar-producing sturgeons (*Acipenser gueldenstaedtii*, *A. stellatus*, and *Huso*

- huso*) based on mitochondrial DNA analysis. *Journal of Applied Ichthyology* 21: 457-460.
- Goldstein, P., W. Wyner, P. Doukakis, M.G. Egan, G. Amato, H. Rosenbaum, and R. DeSalle. 2005. Theory and methods for diagnosing species and populations in conservation. *Annals of the Missouri Botanical Gardens* 92: 12-27.
- Hadrys, T., R. DeSalle, S. Sagasser, N. Fischer, and B.Schierwater. 2005. The *Trichoplax PaxB* gene: a putative Proto-PaxA/B/C gene predating the origin of nerve and sensory cells. *Mol Biol Evol.* Jul 22(7):1569-78.
- Helfenbein, K.G. and R. DeSalle. 2005. Falsifications and corroborations: Karl Popper's influence on systematics. *Mol Phylogenet Evol.* Apr 35(1):271-80. Erratum in: *Mol Phylogenet Evol.* Jul 36(1):200.
- Narechania A., Z. Chen, R. DeSalle, and R.D. Burk. 2005. Phylogenetic incongruence among oncogenic genital alpha human papillomaviruses. *Journal of Virology* 79(24):15503-15510.
- Schiffman, M., R. Herrero, R. DeSalle, A. Hildesheim, S. Wacholder, A.C. Rodriguez, M.C. Bratti, M.E. Sherman, J. Morales, D. Guillen, M. Alfaro, M. Hutchinson, T.C. Wright, D. Solomon, Z. Chen, J. Schussler, P.E. Castle, and R.D.Burk. 2005. The carcinogenicity of human papillomavirus types reflects viral evolution. *Virology.* Jun 20;337(1):76-84.
- Schiffman M, R. Herrero, and R. Desalle. 2005. The carcinogenicity of human papillomavirus types reflects viral evolution. *Virology* 337(1):76-84.
- DeSalle, R. and G. Amato. The expansion of conservation genetics. 2004. *Nat Rev Genet.* 5:702-12.
- Herbst, L., A. Ene, M. Su, R. DeSalle, and J. Lenz. 2004. Tumor outbreaks in marine turtles are not due to recent herpesvirus mutations. *Curr Biol.* 14:R697-9.
- Leszczyńska, M., R. DeSalle, D.C. Kang, P.B. Fisher. 2004. The origin of polynucleotide phosphorylase domains. *Mol Phylogenet Evol.* 31: 123-30.
- Narechania, A., M. Terai, Z. Chen, R. DeSalle, and R.D. Burk. 2004. Lack of the canonical pRB-binding domain in the E7 ORF of artiodactyl papillomaviruses is associated with the development of fibropapillomas. *J Gen Virol.* 85: 1243-1250.
- Rosenfeld, J.A., I.N. Sarkar, P.J. Planet, D.H. Figurski, and R. DeSalle. 2004. ORFcurator: molecular curation of genes and gene clusters in prokaryotic organisms. *Bioinformatics.* 12: 3462-5.
- DeSalle, R., M.A. Branham, P. O'Grady, and J. Gatesy. 2003. The evolution of HOM-C homeoboxes in the Dipteran family Drosophilidae. *Insect Mol Biol.* 12: 345-51.
- Gatesy, J., G. Amato, M. Norell, R. DeSalle, and C. Hayashi. 2003. Combined support for wholesale taxic atavism in gavialine crocodylians. *Syst Biol.* 5: 403-22. Erratum in: *Syst Biol* 52: 734.
- Goldstein, P.Z. and R. DeSalle. 2003. Calibrating phylogenetic species formation in a threatened insect using DNA from historical specimens. *Mol Ecol.* 12: 1993-8.
- O'Grady, P. M., J. Bonacum, R. DeSalle, and F. C. Val. 2003. The placement of the *Engiscaptomyza*, *Grimshawomyia*, and *Titanochaeta*, three clades of endemic Hawaiian Drosophilidae. *Zootaxa* 159: 1-16.
- Oliveira, D.C., E.H. Wintermute, W.J. Etges, W.B. Heed, P.M. O'Grady, and R. DeSalle, 2003. Hierarchical structure in the *Drosophila mojavensis* cluster (Diptera: Drosophilidae). *Hereditas* 139: 223-7.

Planet, P.J., S.C. Kachlany, D.H. Fine, R. DeSalle, and D.H. Figurski. 2003. The Widespread Colonization Island of *Actinobacillus actinomycetemcomitans*. Nat Genet. 2003 Apr 28