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Education	A.B. Molecular and Cell Biology, Emphasis Genetics and Development <i>University of California, Berkeley, California USA (2000)</i>
Research Experience	<p><i>European Molecular Biology Laboratory-Heidelberg, Germany (March 2002-Present)</i></p> <p>Research Technician</p> <ul style="list-style-type: none"> ▪ <i>Anopheles gambiae</i> transgenesis with multiple fluorescent markers (dsRED, EGFP) and multiple transposable element gene vectors (<i>piggyBac</i>, <i>Minos</i>) with eventual extension to <i>in vivo</i> reverse genetics. <p><i>Centers for Disease Control and Prevention, National Center for Infectious Disease Division of Parasitic Disease/Entomology Branch (Sept. 2000–Feb. 2002)</i></p> <p>Emerging Infectious Diseases Laboratory Research Fellow</p> <ul style="list-style-type: none"> ▪ Germline transformation of the malaria mosquito <i>Anopheles gambiae</i> with a <i>piggyBac</i> transposable element vector. ▪ Development and optimization of the existing protocol for microinjection of <i>An. gambiae</i>. ▪ Molecular and genetic analysis of <i>An. gambiae</i> transformants. ▪ Dissection of <i>Plasmodium vivax</i> and <i>P. falciparum</i> infected transgenic <i>Anopheles stephensi</i> to determine efficacy of refractory phenotype. ▪ Culturing of <i>Anopheles</i> cell lines for <i>in vitro</i> excision and transposition assays of <i>piggyBac</i> function. ▪ Culturing of <i>Anopheles</i> mosquito stocks. ▪ Assisted in surveillance of WNV in Atlanta Metro during 2001 Season. ▪ Assisted in coordination of CDC emergency response during 2001 Anthrax Bioterror Crisis. <p><i>University of California, Berkeley (Sept. 1998–Oct. 1999)</i></p> <p>Laboratory Research Assistant; Department of Integrative Biology</p> <ul style="list-style-type: none"> ▪ Molecular evolution and Phylogenetics of the Bryophytes with special emphasis on resolution of deep evolutionary relationships of the Green Plants. <p><i>University of California, Berkeley (Jan. 2000–May 2000)</i></p> <p>Genetics Laboratory Course</p> <ul style="list-style-type: none"> ▪ Undergraduate course focusing on the use of molecular techniques for genetic analysis of <i>Saccharomyces cerevisiae</i>, <i>Caenorhabditis elegans</i> and <i>Drosophila melanogaster</i>.
Techniques/Skills	<p>Molecular Techniques</p> <ul style="list-style-type: none"> ▪ DNA extraction and purification ; PCR ; Cycle Sequencing ; Automated DNA Sequencing (ABI 3100); DNA Sequence Analysis ; Southern Blot ; Ultra-Centrifugation ; Gel Electrophoresis and Imaging ; <i>Drosophila</i> Microinjection ; <i>Anopheles</i> Microinjection ; Quartz, Aluminosilicate and Borosilicate Micropipette Design and pulling ; Fluorescent (GFP) Microscopy ; Cell/tissue Culture ; Cell Transfection ; Antiseptic Technique. <p>Entomology Techniques</p> <ul style="list-style-type: none"> ▪ All aspects of rearing several species of disease vector mosquitoes, including <i>Anopheles gambiae</i>, <i>Anopheles stephensi</i>, <i>Anopheles quadrimaculatus</i>, and <i>Aedes aegypti</i>. ▪ Dissection of midguts and salivary glands of <i>Anopheles</i> mosquitoes. ▪ Techniques include blood feeding, egg washing, hatching, larval feeding and separation, adult cultivation, manual mating, pupal and adult sexing, outcrossing and general stock maintenance as

well as larval GFP screening for transgenic lines.

Computing and Other Skills

- Expert user of both Windows and Macintosh platform software and hardware
- Proper Waste Disposal Practices and Safety Training
- Radioactive Isotope Certification and Safety Training

Teaching Experience

University of California, Berkeley (Jan. 2000–May 2000)

Teaching Assistant

- Undergraduate Student Instructor for Interdisciplinary Studies 130: Health and Medical ethics, an upper division course in the College of Letters & Sciences.
- Concurrent membership in the Health and Medical Apprenticeship Program (HMAP) at UC Berkeley.

Meetings/Courses Attended

- American Society of Tropical Medicine & Hygiene in Atlanta, GA (November, 2001).
- 3rd International Congress of Vector Ecology in Barcelona, Spain (September, 2001).
- Cleveland Vector Encounter in Cleveland, OH (July, 2001).
- Genetic Manipulation of Insects in Taos, NM (February, 2001).
- XVI International Botanical Congress in Saint Louis, MO (August, 1999).

Publications

[Germline transformation of the malaria vector, *Anopheles gambiae*, with the piggyBac transposable element](#). Genelle L. Grossman, Cristina S. Rafferty, **John R. Clayton**, Theresa K. Stevens, Odette Mukabayire, and Mark Q. Benedict. *Insect Molecular Biology* **10** (6), 597-604 (2001).

Presentations/Posters

[Germline Transformation of *Anopheles gambiae* with the piggyBac transposable element](#). **John R. Clayton** and Mark Q. Benedict. *American Society of Tropical Medicine & Hygiene 50th Annual Meeting*. Atlanta, GA (November 10-15, 2001).

[Mobility of piggyBac in *Anopheles gambiae*](#). Mark Q. Benedict, **John R. Clayton**, and Genelle L. Grossman. *3rd International Congress of Vector Ecology*. Barcelona, Spain (September, 2001).

[Phylogenetic significance of *rbcL* secondary structures](#). **John R. Clayton** and John A. Wheeler. *XVI International Botanical Congress*, St. Louis, MO (August, 1999).

Miscellaneous Contribution

Enserink, Martin. [Two New Steps Toward A 'Better Mosquito'](#). **Contributed Photograph**. *Science*, 289, 2370-2371 (2001).

[EID Roundtable – Q and A Session From Current EID Fellows](#). Jean Bendik, **John R. Clayton**, Andrew Hopkins, Lauren Singer and Fernando Torres. *Class VII EID Fellowship Orientation*. Atlanta, GA (August 16, 2001).