

**Brian P. Hogan, PhD**  
**Research Assistant Professor**

University of North Carolina  
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**Educational Background:**

Ph.D., Chemistry

*University of North Carolina (Chapel Hill, NC)* 1999-2003

Department of Chemistry

Program in Biological Chemistry

Doctoral Advisor: Dr. Dorothy A. Erie

*Trenton State College*

currently *The College of New Jersey (Ewing, NJ)* 1992-1996

Bachelor of Science, Biology

Minor: Chemistry

*Magna cum laude*

**Research Experience:**

*Postdoctoral Research:* Expression, purification, and crystallization of the five human RecQ helicases (BLM, WRN, RecQ1, RecQ4, and RecQ5) and *Drosophila melanogaster* dmRecQ5. Mentor: Dr. Matthew R. Redinbo, University of North Carolina (Department of Chemistry, Department of Biochemistry and Biophysics), Chapel Hill, NC

*Doctoral Research:* Transcript cleavage by *Thermus thermophilus* RNA polymerase. Effects of GreA and anti-GreA factors. Advisor: Dr. Dorothy A. Erie, University of North Carolina (Department of Chemistry), Chapel Hill, NC. Total number of pages: 167.

*Professional Experience:*

Research Assistant. Iconix Pharmaceuticals, *Surrogate Genetics-Genomics* division.

Corporate headquarters: 850 Maude Ave., Mountain View, CA 94043.

Research Assistant. Waksman Institute of Microbiology, Rutgers University (Advisor: Dr. Andrew K. Vershon). Transcription Regulation in eukaryotes.

*Undergraduate Research:* Howard Hughes Undergraduate Fellow, Waksman Institute of Microbiology, Rutgers University. Novel factors influencing meiosis in *Saccharomyces cerevisiae* (Advisor: Dr. Lenore Neigeborn).

## Teaching Experience:

Research Assistant Professor: Biochemistry education, Department of Chemistry, UNC (2004-present).

Visiting Lecturer: Department of chemistry, UNC (2003-2004)

Instructor: Chem 430 Introduction to Biological Chemistry (Fall 2006), UNC department of chemistry

Instructor: Chem 430 Introduction to Biological Chemistry (Summer Session I 2006), UNC department of chemistry

Instructor: Chem 430 Introduction to Biological Chemistry (Spring 2007), UNC department of chemistry

Instructor/lab coordinator: Chem 530L Lab Techniques in Molecular Biology and Biochemistry. (Fall 2006)

Instructor/lab coordinator: Chem 530L Lab Techniques in Molecular Biology and Biochemistry. (Spring 2007)

Instructor: Chem 130 Introduction to Biological Chemistry (Spring 2006), Video teleconference course, JCSU, Charlotte, NC (through the UNC Institute of Science Education and PMABS).

Instructor: Chem 130 Introduction to Biological Chemistry (Fall 2005), UNC department of chemistry

Instructor: Chem 130 Introduction to Biological Chemistry (Summer Session I 2005), UNC department of chemistry

Instructor: Chem 130 Introduction to Biological Chemistry (Spring 2005), UNC department of chemistry

Instructor: Chem 130 Introduction to Biological Chemistry (Fall 2004), UNC department of chemistry

Instructor: Honors 30, *Society, ethics, and biotechnology*, UNC Honors program (Fall 2005)

Instructor/lab coordinator: Chem 131L Lab Techniques in Molecular Biology and Biochemistry. (Spring 2006)

Instructor/lab coordinator: Chem 131L Lab Techniques in Molecular Biology and

Biochemistry. (Fall 2005)

Instructor: Biol 50 Genetics and molecular biology (Summer Session I 2005), UNC department of biology

Instructor/lab coordinator: Chem 131L Lab Techniques in Molecular Biology and Biochemistry. (Spring 2005)

Instructor/lab coordinator: Chem 131L Lab Techniques in Molecular Biology and Biochemistry. (Fall 2005)

Instructor: Biol 50 Genetics and molecular biology (Summer Session I and II 2004), UNC department of biology

Instructor: Chem 130 Introduction to Biological Chemistry (Summer Session I 2004), UNC department of chemistry

Instructor: Chem 21 General Descriptive Chemistry II. UNC Department of Chemistry. (Fall 2003)

Instructor: Chem 130 Introduction to Biological Chemistry. UNC Department of Chemistry. (Summer Session I Summer 2003)

Adjunct instructor of biology: CFAS 1220, Science Odyssey, Dept. of biology, North Carolina Central University (Fall/Spring 2002, 2003)

Instructor: Chem 130 Introduction to Biological Chemistry. UNC Department of Chemistry. (Summer Session I Summer 2002)

Instructor/lab coordinator: Chem 136L Lab Techniques in Molecular Biology and Biochemistry. (Fall 2001)

Teaching fellow: Chem 11 General Descriptive Chemistry I. 12 lectures as GAANN teaching Fellow. (Faculty mentor: Dr. Dorothy A. Erie Fall 2001)

Instructor: Chem 130 Introduction to Biological Chemistry. UNC Department of Chemistry. Summer Session I. (Summer 2001)

Instructor/lab coordinator: Chem 136L Lab Techniques in Molecular Biology and Biochemistry. (Spring 2000)

Teaching Assistant: Chem 136L Lab Techniques in Molecular Biology and Biochemistry. (Instructor: Dr. Kevin A. Weeks, Fall 1999)

Teaching Assistant: PCR: The polymerase chain reaction. Rutgers University, Office of Continuing Education. Course coordinator: Dr. Navin Sinha. (Spring 1997)

*Undergraduate Teaching Assistant:* Biol 321-Genetics. Trenton State College.  
Instructor: Dr. William S. Klug. (Spring 1996)

- **Honors/Awards:**
- *UNC Academy of Distinguished Teaching Scholars* (inducted 4/1/2002)
- *Tanner Teaching Award for excellence in undergraduate education* (UNC 2002)
- US Department of Education GAANN (Graduate Assistantships in Areas of National Need) teaching fellow (2001/2002)
- *Graduate Teaching Award* (UNC Department of Chemistry 2000/2001)
- Beta Beta Beta, National Biological Honor Society (1995-1996)
- Howard Hughes Undergraduate Research fellow (1994)

### **Committees/Programs**

- Undergraduate education committee: 2003-present
- Undergraduate labs committee: 2003-present
- GAANN co-director. 2006-present
- Preparing future faculty program—teaching director: 2006-present
- TASSEP co-director: 2007-present

### **Published Manuscripts (peer reviewed):**

Lamour V, Hogan BP, Erie DA, Darst SA., Crystal structure of *Thermus aquaticus* Gfh1, a Gre-factor paralog that inhibits rather than stimulates transcript cleavage. J Mol Biol. 2006 Feb 10;356(1):179-88. Epub 2005 Nov 17.

Hogan, B. P., Hartsch, T., Erie, D.A.. Transcript cleavage by *Thermus thermophilus* RNA polymerase. Effects of GreA and anti-GreA factors. J Biol Chem. 2002 Jan 11;277(2):967-75.

Xue, Y., Hogan, B.P., Erie, D.A. Purification and initial characterization of RNA polymerase from *Thermus thermophilus* strain HB8. Biochemistry. 2000 Nov 21;39(46):14356-62.

Justice, M.C., Hogan, B.P., Vershon, A.K. Homeodomain-DNA interactions of the Pho2 protein are promoter-dependent. Nucleic Acids Res. 1997 Dec 1;25(23):4730-9.

### **Undergraduate Research Mentorship:**

Ms. Christine Chen. *Expression and purification of Drosophila melanogaster RecQ5 DNA helicase* (2003-present)

Mr. Joseph Batchelor. *Development of a cross genus, recombinant, RNA polymerase System.* Chemistry 99 independent study. (2001/2002)

Ms. Noelle Hutchins. *Identification and cloning of the rpoA, rpoZ, and rpoD from the extreme thermophile, Thermus thermophilus*. UNC Minority Research Program (Summer 2001)

Ms. Susan Chung. *Cloning and expression of the transcription accessory protein, NusG, from the thermophile, Thermus thermophilus*. Chemistry 99 independent study. (2000/2001)

Mr. Jefferson D. Knight. *Purification of RNA Polymerase from Thermus aquaticus*. Chemistry 99 Honors project. (1999/2000)

Honors committee chair for Ms. Anna Tulchinsky, Chemistry 99 honors project (F2004)

### **Community Outreach:**

Helped organize and provide supplemental chemistry education to three underserved primary and secondary schools in the Durham public school system.

### **Presentations:**

Transcript cleavage by *T. thermophilus* RNAP: effects of GreA and anti-GreA factors. UNC department of chemistry. Biological chemistry seminar series, January 16<sup>th</sup>, 2002.

Poster: Factors Influencing RNA transcript cleavage activity of *T. thermophilus* RNA Polymerase. 2001 FASEB summer research conference, Saxtons River, VT.

Identification and preliminary characterization of a GreA-like transcription factor in *Thermus thermophilus*. Tenth Biennial Meeting on the Post-Initiation Activities of RNA Polymerase. Mountain Lake, VA, October 28, 2000.

### **Invited seminars:**

*Effective instructional techniques for summer teaching*. GAANN lecture series. Department of Chemistry, UNC Chapel Hill, 2002

*Life after B.S.: My time in graduate school studying thermostable proteins*. Chemistry Seminar Series at The College of New Jersey, Ewing, New Jersey (2001).

Preparing Future Faculty Panel Discussion Part 3: *Getting the Job: What to Expect from a Job Offer and How to Negotiate a Start-up Package*, Monday, November 15, 2004, UNC postdoctoral association.

Keynote address – AXE, May 2004. Life after the chemistry degree

UNC Students' Health Science Club. *Smallpox: ancient scourge meets modern biotechnology* (9/27/2004)

