

# RYAN S. WAKE

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## OBJECTIVE

Full Time opportunity in the biotechnology industry

## EDUCATION

**Bachelor of Science in Biology and Biotechnology**, Worcester Polytechnic Institute, Worcester, MA May 2009  
**Associate of Arts, General Studies**, Quinsigamund Community College, Worcester, MA May 2007

## PROJECTS

**Major Qualifying Project: Cancer Development Research** August 2008 – Present  
UMass Medical Cancer Research Department

Performed gene knockdown of tumor suppressor gene ARHI (NOEY2) in sebaceous gland cells to understand ARHI's role in tumor formation and relationship to TCF/LEF-1 pathways. Researched LEF/TCF pathway influence on ARHI, a tumor suppressor gene found to be down regulated in up to 60 percent of breast cancer patients. Confirmed ARHI's role as a tumor suppressor.

**Interactive Qualifying Project: Crayfish as Bioindicators of PAH Contamination** August 2007-May 2008

Collected and tested crayfish, water, and sediment samples from Blackstone River Valley to determine feasibility of crayfish utilization for polycyclic aromatic hydrocarbons (PAH). Utilized Gas Chromatography Machine to determine parts per billion of Benzo[a]pyrene. Extracted Benzo[a]pyrene from Crayfish tissue (blood, muscle, hepatopancreas), sediment, and water samples, which positively resulted in crayfish being an indicator for PAH.

## RELATED EXPERIENCE

**Biology Prep Lab Technician**, Biology/Biotech Department, WPI August 2007 – May 2008

Prepared various chemicals, solutions, and materials for laboratory sessions. Cleaned and maintained laboratory preparation room and autoclave room. Conducted sterile procedure, followed all safety procedures when performing tasks. Attended monthly safety training sessions whose instruction included proper handling of chemicals, safety procedures and precautions and emergency action guidelines.

## SKILLS

**Lab Protocols:** Western Blot, Immunofluorescence, Immunocytochemistry, rtPCR, cell culture, bacterial transformation, plasmid prep, preparing buffers/solutions, titration, DNA electrophoresis and analysis, aseptic technique

**Lab Equipment:** Thermal cycler, pH meter, balance, centrifuge, dissolved oxygen meter, electrophoresis unit, UV illuminator, NMR/IR/UV spectrophotometer, autoclave, calorimeter, pipettes, laminate hood, incubator

**Computer:** Microsoft Word, Excel, PowerPoint, Adobe

## VOLUNTEER EXPERIENCE

**Children's Medical Center**, Boston MA 2007 – 2008

## ACTIVITIES

**Varsity Soccer** (Captain 2008-2009) 2005 – Present

**Alpha Phi Omega** (Pledge Trainer 2008-2009) 2005 – Present

**Skeptic Chemists** (Treasurer 2007-2008) 2005 – Present