

Clifford Adam Schlecht

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EDUCATION

Doctorate of Philosophy , Chemistry Washington University in Saint Louis, St. Louis, MO	March 2009
Master of Arts , Chemistry Washington University in Saint Louis, St. Louis, MO	May 2007
Master of Science , Chemistry Furman University, Greenville, SC	August 2004
Bachelor of Science , <i>Cum Laude</i> , ACS-certified in Biochemistry Furman University, Greenville, SC	May 2003

ADMITTED

United States Patent and Trademark Office (reg. no. 63,644)	2008
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LEGAL EXPERIENCE

Independent Contractor, Harness, Dickey and Pierce, Clayton, MO

Principal: J. Timothy Keane December 2008 – present

- Assisted on patent due-diligence assessments in areas of nanotechnology and nutrition.
 - Analyzed patent claim embracement of humanized antibodies and pharmaceuticals.
 - Drafted and proofed amendments and information disclosure statements in areas of chemical vapor deposition, liquid salts, and silicone release films.
 - Wrote draft patents for polyurethane molding technology and alternative fuel.
 - Researched clinical indication and compound disclosure definitions to interpret claim scope.
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TECHNICAL EXPERIENCE

Graduate Assistant, Washington University in Saint Louis, Saint Louis, MO

Research Director: Professor Joshua Maurer August 2004 – December 2008

- Developed technology for direct-write protein patterning onto surfaces for the purpose of guiding the growth of neurons.
- Designed and synthesized monomers with trimethoxysilyl, carboxylic and phosphonic acid head groups for self-assembled monolayers (SAMs) on glass and metal oxides.
- Prepared and optimized SAMs using infrared spectroscopy.
- Used microcontact printing to generate patterned SAMs on glass.
- Studied protein adsorption and SAM stability by fluorescence microscopy.
- Synthesized a group of photocaged acid monomers and studied their photochemical properties.

Graduate Research Assistant, Furman University, Greenville, SC

Research Director: Professor Larry Trzuppek June 2003 – August 2004

- Prepared monomers for SAMs on gold, including a riboflavin-functionalized monomer.
- Studied an electrochemical and fluorometric biosensor for riboflavin-binding protein by using cyclic voltammetry and fluorimetry.

Undergraduate Summer Research Program, Los Alamos National Laboratory

Research Directors: Dr. James Bailey and Dr. Robert Donohoe June 2002 – August 2002

- Analyzed redox and pH-dependent secondary and tertiary conformational changes of cytochrome *c* and cytochrome *c*₃ by difference IR spectroscopy.

Undergraduate Research Fellow, Furman University, Greenville, SC

Research Director: Professor Moses Lee June 2001 – August 2001

- Developed prostate cancer treatments, including the synthesis of a prodrug for prostate-specific antigen
- Attached a tetrapeptide prosthetic group to a class of anti-cancer drug.

Advanced SHARP Research Apprentice, NASA/Marshall Space Flight Center

Research Director: Richard Hoover June 1999 – August 1999

- Examined meteorite and permafrost samples by environmental scanning electron microscopy.
- Developed a visual library of known extremophilic organisms for comparison to structures found in carbonaceous chondrites.

PUBLICATIONS

Sinko, John E.; Schlecht, Clifford A. "Reflection Fourier Transform Infrared Spectroscopy of Polymer Targets for CO₂ Laser Ablation" *Proceedings of SPIE*, **2008**, Vol. 7005, 70052P1-12.

Schlecht, Clifford A.; Maurer, Joshua, A. "Trimethoxysilane Self-Assembled Monolayers Require Long Alkyl Chains for Ordering", *submitted*.

Schlecht, Clifford A.; Maurer, Joshua, A. "Evidence of a Gradual Fill-In Mechanism for Alkoxysilane Self-Assembled Monolayer Formation", *in preparation/review*.

LANGUAGE SKILLS

Proficient in German, Familiar with Spanish

SCHOLARSHIPS

Dreyfus Scholarship	2003
Milliken Scholar	2003
Keeler Chemistry Scholar	2003
DaimlerChrysler Corporations Fund Scholarship	1999-2003

AWARDS AND HONORS

Marcus Lecture Committee	2005
The American Institute of Chemists Foundation Award	2003
Phi Eta Sigma	2001
Dean's List	1999-2003
Eagle Scout Award	1999
DuPont Challenge Honorable Mention	1998

AFFILIATIONS

American Chemical Society	2003-present
American Association for the Advancement of Science	2001-present