

# BRIAN P. KELLY

Landscape Architect / Environmental Scientist

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## CAREER INTEREST

I am intrigued by the formation and functionality of ecosystems. In particular what catalyzes adaptation and significant change. My research interest lies in discovering those principles that might be learned from natural environments to facilitate purposeful design ideas and theoretical approaches that are translated into practical application. Specifically, I am a “naturalist” looking at all aspects of ecosystem development from soils, plants, and hydrology to land management policy and planning. I am fascinated with the orchestrated mechanisms observed at the molecular to global scale, which informs our ability to manage dynamic processes and multifunctional performance.

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## EDUCATION

- **Master of Landscape Architecture**  
University of Colorado-Denver (UCHSC), 2005  
*Pertinent Coursework: Ethics in Research, Normal/Abnormal Biological Structure, Site Planning, Plant Material Identification, Environmental Planning I (ecology), Landscape Architecture-Ecology Workshop, Natural Resource Management & Planning*
- **Bachelor of Science in Microbiology**  
Colorado State University, 1994  
*Pertinent Coursework: Quantitative Chemistry Analysis, Parasitology & Vector Biology, Microbial Physiology, Microbial Genetics, Molecular Virology, Immunobiology, Molecular immunology*
- **Bachelor of Science in Animal Science**  
Pennsylvania State University, 1991  
*Pertinent Coursework: Organic Chemistry, Soils and Soil Fertility, Animal Production & Management*

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## PROFESSIONAL EXPERIENCE

### Director of Research & Design, Founder

Bios Landscape Design Research, LLC, July 2010 – present

- Organize LLC to validate landscape design through the application of ecological principles.
- Build upon the body of science to create, enhance, restore and preserve ecosystem services and their performance
- Commit to the study and understanding of plant ecophysiology, evolutionary biology, biophysical structure of the environment, and resource management and planning
- Consult with clients, agencies, and allied professions to address questions and problems in land management practices
- Design of residential landscapes which incorporate innovative strategies sensitive to the historic, ecological, and contemporary context.

### Environmental Scientist II / Restoration Ecologist

Smith Environmental and Engineering, Inc, May 2007 – June 2009 (FT)

Subcontractor, June 2009 – present

- Collaborate with engineering, wildlife biologist, geologist and archaeologist staff members in all facets of providing State and Federal environmental clearance including CWA Section 404 permitting, NHPA Section 106, DOTA Section 4(f) resource evaluation, and CO SB40 Wildlife certification
- Perform wetland delineation, mapping and function assessments as well as habitat suitability assessments
- Design and manage construction of wetland mitigation plans, including monitoring reports per USACE requirements

- Help with pre-construction assessments, site clearances, and post construction monitoring for threatened, endangered, and sensitive plant and animal species
- Provide GIS spatial analysis and mapping representing data, mitigation, and conceptual designs graphically
- Mentor and manage personnel for project deliverables and computer technologies
- Integrate USDA/USFS's Scenery Management System during site analysis of the planning phase prior to land development
- Previous Certification for Preble Meadows Jumping Mouse Survey (sponsored by DOW)
- Field Survey crew leader for White-tailed Prairie Dog town inventory and assessment on the Bolton Ranch Black-Footed Ferret Complex in Carbon County, Wyoming (sponsored by BLM)
- Transect and assess Black –Footed Ferret habitat on over 99 sections of rigorous terrain

**Landscape Architect / GIS Specialist**

Norris Design, Inc., May 2005 – April 2007

- Prepare site plans, construction documents, GIS mapping models and graphic representations
- Fully integrate various graphic media in the presentation of conceptual site plans, including: GIS 3D analysis, AutoCADD, Adobe Photoshop, InDesign, and Illustrator along with hand illustrations
- Facilitate land planning community meetings with the general public and assist in their comprehension of the land planning process.
- Develop the design, access, plant selection, and interpretive program for an ecosensitive/xeric educational garden for The Meadows Development in Castle Rock, Colorado.
- AWARDS: 2007 CCASLA Honor Award "3D Visualization: Communicating the Designed Environment"; 2007 CCASLA Merit Award "Nouveau Kiskeya-A New Hope for Haiti"

**Landscape Architect / GIS Intern**

The TSR Group, Inc., Nov 2004 – May 2005

- Master software integration for design projects, conservation easements, and data dissemination
- Collect field data with Trimble hand-held and backpack units with a high comfort level in remote and difficult terrain
- Teaching Assistant to the TSR Principal at the University of Colorado-Denver College of Architecture and Planning; course title "Computer Applications in Landscape Architecture"

**Construction Management Intern**

Designscapes Colorado, June 2004 – Oct 2004

- Review and revise construction documents, and field survey using GPS survey grade instruments to layout construction document coordinates
- Observe and perform proper site installation, ensuring design specifications are met
- Oversee field crews and manage day to day operations, assisting in clarifying document specifications and discrepancies
- Operate large equipment in the implementation of grading and drainage requirements, amenity installation, and material transport

**Cultural Resource Survey Volunteer**

National Park Service, Aug 2004 – May 2005

- Perform SHPO inventory surveys on undocumented cultural resources in remote areas of Rocky Mountain National Park
- Integrate GPS/GIS technologies to georeference historic maps to identify areas of potential interest

- Provide supporting documentation and archival literature reviews in the determination of eligibility of potential structures and associated landscape features
- Successfully submit resource nomination to the National Register of Historic Places

**Research Associate / Lab Manager**

UCHSC Dept of Pediatric Cardiology, Aug 1999 – Aug 2003

- Investigate mechanisms of transplant rejection and tolerance induction under the direction of the Transplant Immunology Core
- Perform heterotopic cardiac transplants utilizing multiple transgenic murine models treated with various antibody therapies
- Research the indirect and direct antigen presentation pathways systematically into various components and examine for the ability to induce rejection of a vascularized organ graft
- Compile and present data, summarize results and submit publications for peer review.
- Compose laboratory protocols and SOPs, troubleshoot experimental discrepancies and report errors in findings
- Manage lab operations, personnel, grant budgets and laboratory supplies
- Master laboratory procedures such as flow cytometry, ELISA, gene chip micro-array, and light microscopy

**Research Associate**

W.L. Gore and Associates, Aug 1997 – Aug 1999

- Investigate the host immune response to biomaterials and encapsulated therapeutic cells, as it relates to human diseases.
- Responsible for researching the molecular interactions of immune cells, cytokine and chemokine release, and their actions in direct correlation to transplanted genetically-engineered cell lines and the corresponding disease state
- Technical lead in the development of in situ RT-PCR, assay development, and immunohistochemistry
- Attend seminars and review contemporary literature to develop novel experimental theory
- Make progress presentations to peers across multiple disciplines

**Research Associate**

CSU Mycobacterium Research Lab, Dec 1994 – Aug 1997

- Study the function of the immune system and drug susceptibility as it relates to Mycobacterium tuberculosis infections under the stringent conditions of a Biosafety Level 3 laboratory
- Test newly developed therapeutic agents, under NIH Drug screening contract #5-34856, in animal and in vitro models
- Develop RT-PCR primers and perform PCR using RNA/DNA isolates from cells
- Culture and upscale bacterial and mammalian cells using sterile technique protocols
- Teaching assistant to undergraduates of immunological techniques

**PROFESSIONAL AFFILIATIONS**

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Ecological Society of America

Colorado Historic American Landscape Survey Committee

American Society of Landscape Architects

International Federation of Landscape Architects

US Green Building Council LEED® AP

Volunteer: Wildland Restoration Volunteers, Colorado 14'ers Initiative, Volunteers for Outdoor Colorado, and Americorp

## **PUBLICATIONS AND REPORTS**

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### **Environmental Compliance**

**Kelly, BP.**

Threatened and Endangered Habitat Suitability Assessment for Poudre River Trail under State Highway 392. Larimer County, CO. 2008 Oct. Colorado Department of Transportation.

**Kelly, BP.**

Noxious Weed Investigation Report for Poudre River Trail under State Highway 392. Larimer County, CO. 2008 Oct. Colorado Department of Transportation.

**Kelly, BP.**

Noxious Weeds Investigation Report for Palomino Reserve Development Project. El Paso County, CO. 2008 Sept. El Paso County Development Services Department.

**Kelly, BP.**

Wetland Report for Meridian Road South Extension. El Paso County, CO. 2008 Aug. El Paso County Department of Transportation and HDR Engineering.

**Kelly, BP.**

Colorado Senate Bill 40 Wildlife Certification Assessment. El Paso County, CO. 2008 Aug. El Paso County Department of Transportation and HDR Engineering.

### **Science Publications (Peer Reviewed)**

Grazia TJ, Plenter RJ, Doan AN, **Kelly BP**, Weber SM, Kurche JS, Cushing SO, Gill RG, Pietra BA. Spontaneous allograft tolerance in B7-deficient mice independent of preexisting endogenous CD4+CD25+ regulatory T-cells. Transplantation. 2007 Jun 15;83(11):1449-58.

Grazia TJ, Pietra BA, Johnson ZA, **Kelly BP**, Plenter RJ, Gill RG. A two-step model of acute CD4 T-cell mediated cardiac allograft rejection. J Immunol. 2004 Jun 15;172(12):7451-8.

Wiseman AC, Pietra BA, **Kelly BP**, Rayat GR, Rizeq M, Gill RG. Donor IFN-gamma receptors are critical for acute CD4(+) T cell-mediated cardiac allograft rejection. J Immunol. 2001 Nov 1;167(9):5457-63.

Baldwin SL, D'Souza C, Roberts AD, **Kelly BP**, Frank AA, Lui MA, Ulmer JB, Huygen K, McMurray DM, Orme IM. Evaluation of new vaccines in the mouse and guinea pig model of tuberculosis. Infect Immun. 1998 Jun;66(6):2951-9.

**Kelly BP**, Furney SK, Jessen MT, Orme IM. Low-dose aerosol infection model for testing drugs for efficacy against Mycobacterium tuberculosis. Antimicrob Agents Chemother. 1996 Dec;40(12):2809-12.

### **Historic Preservation Reports**

**Kelly, BP.** Section 4(f) Findings Letter Report for Estes Park Transportation Hub. Larimer County, CO. 2009 April.; Submitted to Town of Estes Park and Colorado Department of Transportation.

**Kelly, BP.** Section 4(f) Findings Letter Report for Fall River Trail Phase 4B. Larimer County, CO. 2009 April.; Submitted to Town of Estes Park and Colorado Department of Transportation.

**Kelly, BP** and Feinberg, J. Anderson Park Historic Assessment. Pitkin County, CO. 2008 Dec.; City of Aspen Parks and Recreation Department. Submitted to the Aspen Historic Society and Colorado State Historic Preservation Office.

**Kelly BP**, and Williams, JK. Class II Cultural Resource Inventory of the Sandstone Ranch Project.

Douglas County, CO. 2007 Oct.; Submitted and archived at the Colorado State Historic Preservation Office.

**Kelly, BP.** Historic Assessment of the Smuggler Mountain Open Space. Pitkin County, CO. 2008 Feb.; Submitted and archived at the Colorado State Historic Preservation Office.

**Kelly, BP.** Rocky Mountain National Registration Evaluation of Historic Structures. Larimer County, CO. 2004 Aug.; Submitted and archived at the Colorado State Historic Preservation Office (NRHP Bldg 0171, 5LR.10936).

**Acknowledged**

Slayden RA, Lee RE, Armour JW, Cooper AM, Orme IM, Brennan PJ, Besra GS. Antimycobacterial action of thiolactomycin: an inhibitor of fatty acid and mycolic acid synthesis. *Antimicrob Agents Chemother.* 1996 Dec;40(12):2813-9.

Pietra BA, Wiseman A, Bolwerk A, Rizeq M, Gill RG. CD4 T cell-mediated cardiac allograft rejection requires donor but not host MHC class II. *J Clin Invest.* 2000 Oct;106(8):1003-10.