

# Curriculum Vitae

Last Updated: 02/22/2021

## **PERSONAL DATA**

Name: Brian Kelly, Ph.D., DABCC, FAACC  
Citizenship: United States  
email: brian.kelly@utah.edu

## **EDUCATION**

<b><u>Years</u></b>	<b><u>Degree</u></b>	<b><u>Institution (Area of Study)</u></b>
2012 - 2013	Research Fellow	Sports Medicine Research and Testing Laboratory (Forensic Testing and Sports Anti-Doping Research) Salt Lake City, Utah
2009 - 2012	Clinical Research Fellow	University of Virginia (Clinical Chemistry and Laboratory Medicine) Charlottesville, Virginia
2008	Ph.D.	University of Utah (Biochemistry) Salt Lake City, Utah
2001	B.A.	University of Colorado (Biochemistry) Boulder, Colorado
2001	B.A.	University of Colorado (Molecular, Cellular, and Developmental Biology) Boulder, Colorado

## **BOARD CERTIFICATIONS**

06/30/2012 - Present American Board of Clinical Chemistry, Diplomate

## **CURRENT LICENSES/CERTIFICATIONS**

2020 - Present New York: State Department of Health/Certificate of Qualification - Laboratory  
Director

## **UNIVERSITY OF UTAH ACADEMIC HISTORY**

### **Pathology (Clinical Pathology)**

2012 - Present Community Faculty, School of Medicine

## **PROFESSIONAL EXPERIENCE**

### **Full-Time Positions**

2013 - Present Owner, BNK Clinical Laboratory Consulting, LLC, Salt Lake City, UT

### **Part-Time Positions**

2021 - Present CLIA Laboratory Director, Five Valleys Urology, Missoula, MT  
2020 - Present CLIA Laboratory Director, Oswald's Pharmacy, Naperville, IL  
2019 - Present CLIA Laboratory Director, Granger Medical Clinic, West Valley City, UT  
2018 - Present CLIA Laboratory Director, Specialized Treatment Services, Saint Paul, MN  
2017 - Present Clinical Toxicology Specialist, ARUP Laboratories, Salt Lake City, UT

2014 - Present      CLIA Laboratory Director, Michigan Neurology & Spine Center, Port Huron, MI

### **Reviewer Experience**

Reviewer for Clinical Biochemistry

Reviewer for Clinical Chemistry

Reviewer for Drug Testing and Analysis

Reviewer for International Journal of Molecular Sciences

Reviewer for Pediatric Research

### **SITE VISITS**

2011      Performed a College of American Pathologists self-inspection of the UVA Cancer Center, Student Health, and Toxicology Laboratories in order to identify deficiencies and areas requiring improvement. University of Virginia, Charlottesville, Virginia

### **SCHOLASTIC HONORS**

2012 - Present      Fellow of the National Academy of Clinical Chemistry

2012      Paul E. Strandjord Young Investigator Award, Academy of Clinical Laboratory Physicians and Scientists

2012      Best Oral Presentation, Department of Pathology Annual Research Symposium, University of Virginia, Charlottesville, VA

2011      Paul E. Strandjord Young Investigator Award, Academy of Clinical Laboratory Physicians and Scientists

2011 - 2012      AAAS/Science Program for Excellence in Science, American Association for the Advancement of Science, Washington, D.C.

### **ADMINISTRATIVE EXPERIENCE**

#### **Professional Organization & Scientific Activities**

2016      Corresponding Secretary, American Association for Clinical Chemistry - Rocky Mountain Section

2014 - 2016      Reviewer, American Association for Clinical Chemistry, Annual Meeting Abstract Review Committee. Served as an expert peer reviewer for the 2014 through 2016 AACC Annual Meeting Abstracts selection process.

2014      Secretary, American Association for Clinical Chemistry - Rocky Mountain Section

#### **Grant Review Committee/Study Section**

2010 - 2012      Member: University of Virginia GME Innovative Grant Review and Selection Committee, University of Virginia, Charlottesville, VA

#### **Symposium/Meeting Chair/Coordinator**

2017      Session Chair, Therapeutic Drug Monitoring, MSACL US 2017, Palm Springs, CA, USA

### **PROFESSIONAL COMMUNITY ACTIVITIES**

2015 - Present      Volunteer Judge, Salt Lake Valley Regional Science & Engineering Fair

## **CURRENT MEMBERSHIPS IN PROFESSIONAL SOCIETIES**

Academy of Clinical Laboratory Physicians and Scientists  
American Association for Clinical Chemistry  
Growth Hormone Research Society  
Society of Forensic Toxicologists

## **FUNDING**

### **Past Grants**

10/30/12 - 09/18/13 Educational Research Grant  
NFL and NFL Players Association Research and Education Foundation  
NFL Players Association Research and Education Foundation  
Role: Postdoctoral Fellow

10/15/12 - 01/07/13 Urine Glycerol Reference Range in North American Athletes Research Grant  
World Anti-Doping Agency  
Role: Co-Investigator

01/07/11 - 01/06/12 RT-qPCR approach for detection of recombinant human growth hormone use in athletes  
Partnership For Clean Competition  
Role: Responsible Investigator

08/15/03 - 08/14/04 Biological Chemistry Training Grant  
National Institutes of Health  
Role: Predoctoral Student

### **Clinical Studies**

2012 Change in circulating IGF-1 concentration after transphenoidal resection. A comparison between immunoassay and mass spectrometry-based methods.

2011 Participant, NKEP-IFCC LWG for Standardization of Albumin in Urine, Evaluation of Harmonization of Urine Albumin

### **Independent Research**

2009 - 2011 Identified substances that interfere with point of care glucose meters.

## **TEACHING RESPONSIBILITIES/ASSIGNMENTS**

### **Small Group Teaching**

2017 - Present Introduction to CLIA Laboratory Regulations, University of Utah Department of Pathology, Clinical Chemistry Fellows

2016 - Present Introduction to Toxicology, University of Utah Department of Pathology, Clinical Chemistry Fellows

2014 - Present Clinical Chemistry Correlations, Pathology Department, Weekly Seminar, Pathology Residents and Clinical Chemistry Fellows

### **Didactic Lectures**

2017 - Present Brian Kelly, Sports Drug Testing, University of Utah Pathology Department, Salt Lake City, UT

## **PEER-REVIEWED JOURNAL ARTICLES**

1. McMillin GA, Johnson-Davis KL, **Kelly BN**, Scott B, Yang YK (2021). Impact of the Opioid Epidemic on Drug Testing. *Ther Drug Monit*, 43(1), 14-24.
2. Snozek CLH, Baskin LB, Boyd JM, **Kelly BN**, Krasowski MD, Sadrzadeh SMH, Tacker DH (2021). How Can Routine Clinical Laboratories Keep Up with the Opioid Crisis? *Clin Chem*, 67(2), 338-344.
3. Yang YK, Johnson-Davis KL, **Kelly BN**, McMillin GA (2020). Demand for Interpretation of a Urine Drug Testing Panel Reflects the Changing Landscape of Clinical Needs; Opportunities for the Laboratory to Provide Added Clinical Value. *J Appl Lab Med*, 5(5), 858-868.
4. **Kelly BN**, Haverstick DM, Lee JK, Thorner MO, Vance ML, Xin W, Bruns DE (2014). Circulating microRNA as a biomarker of human growth hormone administration to patients. *Drug Test Anal*, 6(3), 234-8.
5. **Kelly BN**, Madsen M, Sharpe K, Nair V, Eichner D (2013). A population study of urine glycerol concentrations in elite athletes competing in North America. *Drug Test Anal*, 5(11-12), 890-5.
6. **Kelly BN**, Haverstick DM, Vance ML, Thorner MO, Bruns DE (2012). Quantification of growth hormone mRNA in blood. *Clin Chim Acta*, 414, 206-10.
7. Pornillos O, Ganser-Pornillos BK, **Kelly BN**, Hua Y, Whitby FG, Stout CD, Sundquist WI, Hill CP, Yeager M (2009). X-ray structures of the hexameric building block of the HIV capsid. *Cell*, 137(7), 1282-92.
8. **Kelly BN**, Kyere S, Kinde I, Tang C, Howard BR, Robinson H, Sundquist WI, Summers MF, Hill CP (2007). Structure of the antiviral assembly inhibitor CAP-1 complex with the HIV-1 CA protein. *J Mol Biol*, 373(2), 355-66.
9. **Kelly BN**, Howard BR, Wang H, Robinson H, Sundquist WI, Hill CP (2006). Implications for viral capsid assembly from crystal structures of HIV-1 Gag(1-278) and CA(N)(133-278). *Biochemistry*, 45(38), 11257-66.
10. Sundquist WI, Schubert HL, **Kelly BN**, Hill GC, Holton JM, Hill CP (2004). Ubiquitin recognition by the human TSG101 protein. *Mol Cell*, 13(6), 783-9.

## **ADDITIONAL PUBLICATIONS**

### **Commentary**

1. Brian N Kelly, PhD (Fall 2017). Sports Drug Testing Update. *Clinical and Forensic Toxicology News*.

### **Case Reports**

1. Kelly, BN, Silverman, LM, Bruns, DE (2013). Unexpected Serum Protein Electrophoresis Results: Finding the lost monoclonal protein. *ASCP CheckSample Series- Clinical Chemistry*.

### **Letters**

1. **Kelly BN**, Haverstick DM, Bruns DE (2012). Interference in a glucose dehydrogenase-based glucose meter revisited. [Letter to the editor]. *Clin Chim Acta*, 413(7-8), 829-30.
2. **Kelly BN**, Haverstick DM, Bruns DE (2010). Interference in a glucose dehydrogenase-based glucose meter. [Letter to the editor]. *Clin Chem*, 56(6), 1038-40.

### **Multimedia**

1. Brian N Kelly (2009). One Cyclist's Experience [Web], Anti-Doping Research Web Site.

## **PENDING PUBLICATIONS**

### **POSTER PRESENTATIONS**

- 2013 Kelly BN, Madsen M, Sharpe K, Nair V, Eichner D. *A Population Study of Urine Glycerol Concentrations in Elite Athletes Residing in North America*. Poster session presented at 31st Manfred Donike Workshop on Dope Analysis, Cologne, Germany.
- 2012 Stephen Jackson, Devereux N. Saller, Brian N. Kelly, Maria Antero, Heidi Keup, Lisa Pastore. *Human Chorionic Gonadotropin (hCG) Levels in Women With Preeclampsia*.
- 2007 Brian N Kelly. *Structure of HIV-1 CAN in Complex with CAP-1*. Poster session presented at West Coast Protein Crystallography Workshop, Asilomar, California.
- 2006 Brian N Kelly. *Structure of HIV-1 CAN in Complex with CAP-1*. Poster session presented at Northwest Protein Crystallography Workshop, Seattle, Washington.
- 2005 Brian N Kelly. *Structural Studies on HIV-1 Gag Proteins*. Poster session presented at 19th Meeting of Groups Studying the Structures of AIDS-Related Systems and Their Application to Targeted Drug Design, National Institutes of Health, Bethesda, Maryland.

## **ORAL PRESENTATIONS**

### **Meeting Presentations**

#### International

- 2012 Brian N Kelly. Circulating RNA as a Biomarker for Growth Hormone Doping. 6th International Congress of Growth Hormone and IGF-1 Research Societies. Munich, Germany

#### National

- 2012 Brian N Kelly. Circulating RNA as a Biomarker for Growth Hormone Doping. 2012 Annual Meeting of the Academy of Clinical Laboratory Physicians and Scientists, Milwaukee, Wisconsin  
Awarded the Paul E. Strandjord Young Investigator Award
- 2011 Brian N Kelly. Detection of Human Growth Hormone mRNA in Circulation. 2011 Annual Meeting of the Academy of Clinical Laboratory Physicians and Scientists, Saint Louis, Missouri  
Awarded the Paul E. Strandjord Young Investigator Award

### **Invited/Visiting Professor Presentations**

#### International

- 2011 Brian N Kelly. RNA-Biomarker Approaches for Detection of Recombinant Human Growth Hormone Abuse. 10th Annual USADA Symposium on Anti-Doping Science, London, England
- 2008 Brian N Kelly. Structure of HIV-1 CAN in Complex with CAP-1, an Assembly Inhibitor. 2008 Conference on Retroviruses and Opportunistic Infections, Boston, Massachusetts

## **INTELLECTUAL PROPERTY**

**Patents**

17-MAY-19            Bruns DE, Haverstick DM, **Kelly B**(Published). Compositions and Methods for Detecting Aberrant Regulation, Expression, and Levels of hGH

**OTHER SCHOLARLY ACTIVITIES****Additional Research/Scholarship Contributions**

2011 - 2018            Contributor- Document Development Committee on Interference Testing in Clinical Chemistry, Clinical and Laboratory Standards Institute, Document EP-07