**Thomas R. Boal, PhD**

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McLean, VA 22101

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<https://scholar.google.com/citations?user=TeIa31cAAAAJ>

**College Teaching Experience**

Trinity College, Washington, DC 1990, 1997

**Adjunct Instructor**

Chemistry for Non-Science Majors (General Chemistry, Organic, Biochemistry)

University of Illinois, Chicago, IL 1980-1984

**Teaching Assistant**

General Chemistry with Lab

Organic Chemistry with Lab

Chemistry for Non-Science Majors (General Chemistry, Organic, Biochemistry)

**Experience**

ICF International, Inc, Fairfax, VA 10-2018 to present

**Consultant, Food and Drug Administration**

I am currently working at the Food and Drug Administration as a software engineer

Eagle Ray, Inc, Chantilly, VA 09-2017 to 08-2018

**Software Engineer**

I was software engineer for the United States Citizenship and Immigration Service (USCIS) under CapGemini, the prime contractor. In particular, I was a member of an agile development team located at the software developer's (Sevatec) offices in Merrifield, VA. Our development team worked on the Data Business Intelligence Section (DBIS) suite.

Amazon, Springfield, VA 06-2017 to 07-2018

**Amazon Warehouse Fulfillment Associate**

Collaborative Consulting Services, Inc., Saddle River, NJ 04-2015 to 08-2017

**Software** **Engineer**

I was software tester/consultant for Inovalon in Bowie, MD, a cloud-based platform to the healthcare industry, working on their Data Diagnostics application.

* Tested SOAP web services using JMeter and SoapUI
* Tested REST web services using Postman
* Tested ETL jobs from source data into MongoDB NoSQL databases using node.js scripts
* Analyzed MongoDB databases using JSON APIs (Java, JavaScript, Python)
* Testing tools used: MS Team Foundation Server (TFS), MS Test Manager, Hadoop, Hive

Lockheed Martin, Rockville, MD 04-2014 to 08-2015

**Data Scientist**

I was a member of the Lockheed Martin IS&GS Innovation Lab in Windsor Mill, MD, where I help test biomedical machine learning algorithms, in collaboration with the University of Miami Medical System and their Epic Electronic Medical Record data warehouse

* Presentation : <https://www.himssconference.org/sites/himssconference/files/pdf/75.pdf>
* Tested machine learning models using R scripts
* Testing tools used: Redmine, Hadoop, Hive, Pig

TEKsystems Inc, Linthicum, MD 04-2011 to 01-2014

**Bioinformatics Engineer**

I was a consultant on a Lockheed Martin contract with the Office of the National Coordinator for Health IT/Nationwide Health Information Network (DHHS/ONC). I was a test engineer on the team that developed the LRI web application (in collaboration with HL7 and NIST):

<https://hl7v2-lab-testing.nist.gov/mu-lab/>

* QA: identified and entered web defects into Redmine tracker during the development of the NIST/ONC LRI HL7 validation tool
* Tools used: Redmine, HAPI (<https://hapifhir.github.io/hapi-hl7v2/>), Firebug, Selenium, XPath

SemanticBits, Herndon, VA 10-2010 to 03-2011

**Cancer Bioinformatics Engineer/QA Manager**

I was a Web Services Engineer and QA Manager on a contract with the National Cancer Institute (NCI) Center for Biomedical Informatics and Information Technology (CBIIT), serving as a member of the agile development team for the Cancer Biomedical Informatics Grid (caBIG) Legacy Sequential Layered Refactoring (LSLR) Contract (<http://semanticbits.com/nci-cbiit-awards-semanticbits-the-legacy-sequential-layered-refactoring-lslr-contract/>)

* Administratror of the development group’s virtual Linux development servers
* Wrote SoapUI test scripts
* Tools used: soapUI, XEN, CentOS, VMware, Dell Server administration, Groovy, Java, Subversion, ant, caBIG

Peridot Solutions, McLean, VA 08-2010 to 12-2010

**Senior Software Engineer**

I was a Web Services Test Engineer on a contract with the Financial Industry Regulatory Authority, Inc (FINRA) in Rockville, MD

* Wrote and ran SoapUI test scripts
* Wrote test scripts against a FINRA Documentum database (Java/JDBC), and incorporated them into soapUI scripts using Groovy/Java
* Tools used: soapUI, Documentum API, Groovy, Java, Eclipse, HP Quality Center

PayPal, Linthicum, MD 04-2010 to 07-2010

**Senior QA Engineer**

I was consultant at Bill Me Later (a Paypal subsidiary) in Timonium, MD

* Wrote and ran SoapUI test scripts
* Tools used: soapUI, Jira, Java, Groovy

National Cancer Institute, Rockville, MD 03-2007 to 11-2009

**Software Test** **Engineer/Project Manager**

I was a Software Engineer and QA Manager on a contract with the National Cancer Institute (NCI) Center for Biomedical Informatics and Information Technology (CBIIT), serving as a member of the agile development team for the Cancer Biomedical Informatics Grid (caBIG) on several projects (caIntegrater, caArray, caTissue)

* Tested caGrid web services (Java/Eclipse) <https://github.com/NCIP/cagrid-core>
* Deployed test tier JBoss applications
* Tools used: Java, Selenium, Web Services, Eclipse, JBoss, Red Hat Linux

Armed Forces Institute of Pathology, Washington, DC 04-2005 to 03-2007

**Bioinformatics Scientist**

I worked on a data-mining project to extract information from millions of OCR-scanned paper pathology records

* Tools used: Java, PDFBox, Eclipse, Web Services, MySQL, Visual Basic

Walter Reed Army Medical Center, Washington, DC 10-2000 to 04-2005

**Web Developer**

I was a web developer for clinical research projects in the Telemedicine Directorate

* Tools used: Cold Fusion, Dreamweaver, SQL Server, Oracle, Visual Basic, ASP JSP

National Institutes of Health, Rockville MD 01-1998 to 10-2000

**Data Engineer**

I helped populate an Oracle database of anti-AIDS small molecules, and designed a front-end web application for searching it (<https://chemdb.niaid.nih.gov/>)

White House/ Executive Office of the President, Washington DC 10-1999 to 12-1999

**Database application developer**

I was the designer and developer of a YTK-compliant MS Access database for tracking White house volunteers

Cable & Wireless, Vienna, VA 03-1997 to 12-1997

**Database application developer**

I Designed and populated an MS Access database of financial and personnel data for Cable & Wireless, Inc. Corporate Headquarters, and ran ETL that migrated data from 800 MS-Excel financial spreadsheets

Cruachem, Inc, Dulles, VA 07-1994 to 02-1997

**Quality Control Manager and Oligonucleotide Chemist**

I was manager of the Cruachem Quality Control Laboratory

University of Rochester, Rochester, 06-1993 to 07-1994

**Oligonucleotide Chemist**

I was a Test Engineer and QA Manager on a contract with the National Cancer Institute (NCI)

University of Rochester Medical Center, Rochester, NY 01-1991 to 06-1993

**Instructor and Fellow**

I participated in the cloning and sequencing of the Human and yeast versions of the TCP20 chaperonin gene.

Trinity College, Washington DC 1990, 1997

**Adjunct Instructor**

Chemistry for Non-Science Majors (General Chemistry, Organic, Biochemistry)

National Institutes of Health, Bethesda, MD 01-1985 to 01-1991

**Protein Chemist**

I showed that the up-regulation of protein synthesis that occurs when quiescent human T-cells are mitogenically activated is due to the phosphorylation of the translation factor eIF-4E.

**Education**

Reed College, Portland, OR

BA, Economics

University of Illinois, Chicago, IL

MS, Chemistry

George Washington University, Washington, DC

PhD, Genetics

**Certification**

AWS Certified Cloud Practitioner

Validation Number YLQK81WL11VQ1RGL

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**Publications**

<https://scholar.google.com/citations?hl=en&user=TeIa31cAAAAJ>

1. Efficiency of automation and electronic health records in optometric practice

FL McVeigh, AK Tarbett, AM Betts, TR Boal

Optometry-Journal of the American Optometric Association 79 (1), 43-49 2008

2. Use of β-blockers and aspirin after myocardial infarction by patient renal function in the Department of Defense Health Care System

KC Abbott, EM Bohen, CM Yuan, FE Yeo, ES Sawyers, RM Perkins, ...

American journal of kidney diseases 47 (4), 593-603 2006

3. ORIGINAL INVESTIGATIONS-Pathogenesis and Treatment of Kidney Disease and Hypertension-Use of b-Blockers and Aspirin After Myocardial Infarction by Patient Renal Function in the …

KC Abbott, EM Bohen, CM Yuan, FE Yeo, ES Sawyers, RM Perkins, ...

American Journal of Kidney Diseases 47 (4), 593-603 2006

4. Walter Reed Army Medical Center's internet-based electronic health portal

CE Boocks, Z Sun, TR Boal, RK Poropatich, KC Abbott

Military medicine 168 (12), 986-991 2003

5. Tele-hepatitis: Validation of desktop videoteleconferencing (VTC) system at 384 kb connectivity for the evaluation of patients with chronic liver disease

I Hwang, TR Boal, SD Kennedy, RK Poropatich, KC Holtzmuller

Gastroenterology 124 (4), A556 2003

6. International use of an academic nephrology World Wide Web site: from medical information resource to business tool

KC Abbott, DK Oliver, TR Boal, G Gadiyak, C Boocks, CM Yuan, ...

Military medicine 167 (4), 326-330 2002

7. International use of an academic nephrology website

KC Abbott, TR Boal, DK Oliver, C Boocks, RK Poropatich, CM Yuan, ...

AMERICAN JOURNAL OF KIDNEY DISEASES 37 (4), A11-A11 2001

8. Tcp20, a subunit of the eukaryotic TRiC chaperonin from humans and yeast.

WZ Li, P Lin, J Frydman, TR Boal, TS Cardillo, LM Richard, D Toth, ...

Journal of Biological Chemistry 269 (28), 18616-18622 1994

9. Phorbol ester-induced membrane proteins in chronic leukemic B-lymphocytes. Candidate proteins for the L-system amino acid transporter.

TJ Woodlock, DA Young, TR Boal, MA Lichtman, GB Segel

Journal of Biological Chemistry 268 (21), 16020-16027 1993

10. A difference in the rate of ribosomal elongation balances the synthesis of eukaryotic translation initiation factor (eIF)-2 alpha and eIF-2 beta.

JA Chiorini, TR Boal, S Miyamoto, B Safer

Journal of Biological Chemistry 268 (18), 13748-13755 1993

11. A protein complex of translational regulators of GCN4 mRNA is the guanine nucleotide-exchange factor for translation initiation factor 2 in yeast

AM Cigan, JL Bushman, TR Boal, AG Hinnebusch

Proceedings of the National Academy of Sciences 90 (11), 5350-5354 1993

12. Regulation of eukaryotic translation initiation factor expression during T-cell activation

TR Boal, JA Chiorini, RB Cohen, S Miyamoto, RM Frederickson, ...

Biochimica et Biophysica Acta (BBA)-Molecular Cell Research 1176 (3), 257-264 1993

13. Isolation of a gene encoding a chaperonin-like protein by complementation of yeast amino acid transport mutants with human cDNA

GB Segel, TR Boal, TS Cardillo, FG Murant, MA Lichtman, F Sherman

Proceedings of the National Academy of Sciences 89 (13), 6060-6064 1992

14. Increased eIF‐2 alpha expression in mitogen‐activated primary T lymphocytes.

RB Cohen, TR Boal, B Safer

The EMBO journal 9 (12), 3831-3837 1990

15. Monoclonal antibodies against eIF-2B inhibit translation in rabbit reticulocyte lysate

TR Boal, S Sturm, B Safer

Federation Proceedings. Federation of American Societies for Experimental … 1987

16. Fluorescence and photoelectron studies of the intercalative binding of benz(a)anthracene metabolite models to DNA

M.Shahbaz, R.G.Harvey, A.S.Prakash, T.R.Boal, I.S.Zegar, P.R.LeBreton

Biochemical and Biophysical Research Communications 112(1), 1-7 1983