

PERSONAL INFORMATION:

Name: Todd J. Green
Citizenship: United States of America
Home Address: 5419 Sixth Court South, Birmingham, AL 35212
Phone: 205-617-0905

RANK/TITLE:

Rank: Associate Professor
Department: Microbiology
Business Address: 845 19th Street South, BBRB 416, Birmingham, AL 35294
Phone: 205-975-0591
Electronic Mail: tgreen@uab.edu

HOSPITAL AND OTHER (NON ACADEMIC) APPOINTMENTS:

Not applicable.

PROFESSIONAL CONSULTANTSHIPS:

None.

EDUCATION:

1994	B.S. Biology / Chemistry (Minor)	University of Alabama at Huntsville Huntsville, AL
2002	Ph.D. Microbiology	University of Alabama at Birmingham Birmingham, AL

MILITARY SERVICE:

None.

LICENSURE:

Not applicable.

BOARD CERTIFICATION:

Not applicable.

POSTDOCTORAL TRAINING:

2002 – 2005 University of Alabama at Birmingham, Birmingham, AL
Department of Microbiology (Mentor: Ming Luo, Ph.D.)

ACADEMIC APPOINTMENTS:

(In reverse chronological order with Departmental faculty positions listed first)

2019 – present Associate Professor Department of Microbiology

Todd J. Green, Ph.D. - Curriculum Vitae

	(tenure track)	University of Alabama at Birmingham
2015 – 2019	Assistant Professor (tenure track)	Department of Microbiology University of Alabama at Birmingham
2010 – 2015	Assistant Professor (research track)	Department of Microbiology University of Alabama at Birmingham
2020 – present	Associate Professor	Nephrology Research and Training Center Division of Nephrology University of Alabama at Birmingham
2020 – present	Associate Professor	Center for Clinical and Translational Science University of Alabama at Birmingham
2019 – present	Associate Professor	Center for AIDS Research University of Alabama at Birmingham
2019 – present	Associate Professor	Program in Structural Biology University of Alabama at Birmingham
2017 – 2019	Assistant Professor	Program in Structural Biology University of Alabama at Birmingham
2016 – 2019	Assistant Professor	Center for AIDS Research University of Alabama at Birmingham
2014 – present	Faculty	Graduate School University of Alabama at Birmingham
2012 – 2017	Scientist	Center for Structural Biology University of Alabama at Birmingham
2011 – 2014	Faculty	Graduate School (<i>ad hoc</i> status) University of Alabama at Birmingham
2010 – 2017	Scientist	Center for Biophysical Science and Engineering University of Alabama at Birmingham
2005 – 2010	Research Associate	Department of Microbiology Center for Biophysical Science and Engineering University of Alabama at Birmingham

AWARDS/HONORS:

1991 – 1992 Academic Scholarship, University of Alabama at Huntsville
1992 – 1993 UAH Leadership Scholarship, University of Alabama at Huntsville
1993 – 1994 Dr. J. E. Whitaker Endowed Scholarship, University of Alabama at Huntsville
1993 Selected Biology Student of the Year, University of Alabama at Huntsville
2015 Assistant Professor tenure earning

PROFESSIONAL SOCIETIES:

American Crystallographic Association
American Society for Virology
American Society of Nephrology
Society for Glycobiology

MEMBERSHIPS:

None

COUNCILS AND COMMITTEES:**National Board Participation:**

2016 – present Executive Board member for the Southeast Regional Collaborative Access Team (SERCAT) at the Advanced Photon Source (APS), Argonne National Laboratory, Lemont, IL

National Meeting Participation:

2014 Co-organizer – UAB Structural Biology Symposium, University of Alabama at Birmingham, Birmingham, AL
2019 Co-organizer – UAB Structural Biology Symposium, University of Alabama at Birmingham, Birmingham, AL
2019 Co-organizer – Southeast Regional Collaborative Access Team (SERCAT) Symposium, University of Alabama at Birmingham, Birmingham, AL

These two nationally attended back-to-back symposia events entitled UAB-SERCAT STRUCTURAL BIOLOGY SYMPOSIUM - Molecular Insights into Human Disease were held from March 14-16th, featuring topics in (i) Cancer, (ii) Infectious Diseases (iii) Structural Biology in Cellular Systems and (iv) SERCAT. These sessions included distinguished featured keynote speakers: Dr. Yifan Cheng (University of California, San Francisco) and Dr. Peter D. Kwong (NIH/Columbia University).

Grant Review:

2014 UAB Comprehensive Cancer Center Research Panel “New Faculty Development Award”
2015 *Ad hoc* NIH Special Emphasis Panel 2016/01 ZRG1 IDM-B (02) M “Topics in Virology”
2015 Pittman Center for Advanced Medical Studies (PCAMS) / UAB Center for Clinical and Translational Science (CCTS) Panel for Pilot Proposals
2017 The Alabama Drug Discovery Alliance (ADDA) / The Center for Clinical and Translational Science (CCTS): Pilot Grants in Drug Discovery and Development
2018 – present UAB Center for Clinical and Translational Science (CCTS): Grant Review Panel

2021 *Ad hoc* NIH NIAID Special Emphasis Panel (SEP), ZAI-PG-M(S2)

UNIVERSITY ACTIVITIES:

Committees:

University of Alabama at Birmingham

2016 Faculty Search Interviews, Department of Chemistry, University of Alabama at Birmingham

2016 Co-Chair, Seminar Series Committee, Center for Structural Biology, University of Alabama at Birmingham

2016 – 2019 Retreat and Special Event Committee, Department of Microbiology, University of Alabama at Birmingham

2016 – 2019 Shared Equipment Committee, Department of Microbiology, University of Alabama at Birmingham

2018 – present Virology Faculty Search Committee, Department of Microbiology, University of Alabama at Birmingham

2019 – present Retreat and Special Event Committee, Department of Microbiology, University of Alabama at Birmingham (Co-Chair)

2020 – present Department Task Force for Reopening Research Laboratories, Covid-19 Related Departmental Planning, Department of Microbiology, University of Alabama at Birmingham

2020 – present Department Research Strategic Planning Committee (Representing the interests of Structural Biology and Virology), Department of Microbiology, University of Alabama at Birmingham

2020 – present Helen and Robert Whitley Endowed Chair Search Committee, Department of Pediatrics, Division of Infectious Diseases, School of Medicine, University of Alabama at Birmingham

2021 – present Graduate Resilience Outreach and Wellness Program Officer/Faculty Advisor

University of Alabama at Birmingham - Graduate Biomedical Sciences Program

2014 – present Biochemistry, Structural and Stem Cell Biology (BSSB) Theme Member, Graduate Biomedical Sciences, University of Alabama at Birmingham

2014 – present Microbiology Theme Member, Graduate Biomedical Sciences, University of Alabama at Birmingham

2016 – 2019 Admissions Committee, Biochemistry, Structural and Stem Cell Biology (BSSB) Theme, Graduate Biomedical Sciences, University of Alabama at Birmingham

2016 – present Admissions Committee, Microbiology Theme, Graduate Biomedical Sciences, University of Alabama at Birmingham

2019 – present Biochemistry and Structural Biology (BSB) Theme Member, Graduate Biomedical Sciences, University of Alabama at Birmingham

2019 – present Admissions Committee, Biochemistry and Structural Biology (BSB) Theme, Graduate Biomedical Sciences, University of Alabama at Birmingham

Student Mental Health Training:

2016 Student Health and Wellness Committee, Invited membership (Dr. Chad Petit)

July 2017 GBS Council on Student Wellness Training
July 2017 Mental Health Matters Training
July 2017 QPR Suicide Prevention Gatekeeper Training and Certification
March 2021 Graduate Resilience Outreach and Wellness Program Officer/Faculty Advisor

Student Mental Health Presentations:

April 2019 Faculty Panel Discussion on Work-life balance: Dealing with stress, healthy ways to balance your professional and personal life as part of 2019 Graduate Student Appreciation Week – Edge of Chaos, University of Alabama at Birmingham
March 2021 My Story, My Story Seminar Series, GROW (Graduate Resilience Outreach and Wellness) Program, University of Alabama at Birmingham, Birmingham, AL

Judging Rotation Talks/Posters:

2010 – 2018 Biochemistry, Structural and Stem Cell Biology Theme
2011 – 2018 Microbiology Retreat
2014 Structural Biology Symposium
2019 Structural Biology Symposium

EDITORIAL BOARD MEMBERSHIPS:

Ad hoc Journal Review:

Acta Crystallographica Section F: Structural Biology and Crystallization Communications
ACS Omega
EMBO Reports
Inquiro (UAB undergraduate journal)
Journal of Virology
Plos One
Plos Pathogens
Virology
Virus Research
Viruses

Editorial Works:

1. Special Issue in *Viruses*: Topic of Viral Enzymes. Guest Co-Editor with Yizhi Tao, Ph.D. (Rice University). https://www.mdpi.com/journal/viruses/special_issues/ViralEnzymes, *Deadline for manuscript submissions: July, 2021*

MAJOR RESEARCH INTERESTS:

My lab aims to understand protein structure and the structure-function relationships involved in the processes of viral replication, virus-host interactions, capsid structure, polynucleotide synthesis and antibody-antigen complex formation. Toward this goal, we use structural techniques (x-ray crystallography, electron microscopy, and small angle x-ray scattering) and biochemistry to study: viral proteins from negative strand RNA viruses (NSV: VSV, influenza A, mumps, rabies virus), retroviruses (HIV), β -coronaviruses (β -CoV: SARS-CoV-2, SARS, OC43), and human antibodies (IgA nephropathy). This dual approach has been successful in producing near atomic-level snapshots of many complex protein assemblies as well as enabling a fast track to novel biological discoveries and new experimental designs. All of my projects involve viral proteins and/or human antibodies with each

project having carbohydrates as a common element, from ribose moieties as substrates to RNA encapsidation to more complex sugars adorning the surfaces of proteins and finally to glycosylated peptide epitopes that are recognized by antibodies.

TEACHING EXPERIENCE:

Classroom Teaching:

My teaching covers topics in virology, virus structure, structural biology, pathogens, glycobiology, protein-glycan structure, antibody structure and X-ray crystallography. I give lectures and direct courses in the UAB Graduate School, School of Dentistry, School of Medicine, and School of Optometry.

Teaching at The University of Alabama at Birmingham

(In reverse chronological order)

- 2021 Fundamentals of Dentistry and Optometry II (OBHS 112, Topic: Negative Strand RNA viruses), Lecturer, School of Optometry and School of Dentistry, 1 hours of contact, 6 hours of prep
- 2021 Journal Club in Structural Biology (GBS 786J), **Course Director**, Spring Semester, Graduate Biomedical Science, Advanced Course, 13 hours of contact per year, 13 hours of prep per year
- 2021 Structural Biology for Micro (GBS-764, Topic: Protein structure, Structural Techniques, Protein crystallography, Evaluation of literature), Lecturer, Spring Semester, Graduate Biomedical Science, Microbiology Theme, 6 of hours, 10 hours of prep
- 2021 Virology (GBS 762, Topics: Virus Structure and Negative Strand RNA viruses), Lecturer, Spring Semester, Graduate Biomedical Science, Microbiology Theme, 4 hours of contact, 8 hours of prep
- 2020 Fundamentals of Dentistry and Optometry II (OBHS 112, Topic: Negative Strand RNA viruses), Lecturer, School of Optometry and School of Dentistry, 1 hours of contact, 6 hours of prep
- 2020 Journal Club in Structural Biology (GBS 786J), **Course Director**, Fall Semester, Graduate Biomedical Science, Advanced Course, 13 hours of contact per year, 13 hours of prep per year
- 2020 Journal Club in Structural Biology (GBS 786J), **Course Director**, Spring Semester, Graduate Biomedical Science, Advanced Course, 13 hours of contact per year, 13 hours of prep per year
- 2020 Structural Biology for Micro (GBS-764, Topic: Protein structure, Structural Techniques, Protein crystallography, Evaluation of literature), Lecturer, Graduate Biomedical Science, Microbiology Theme, 6 of hours, 10 hours of prep
- 2020 Virology (GBS 762, Topics: Virus Structure and Negative Strand RNA viruses), Lecturer, Graduate Biomedical Science, Microbiology Theme, 4 hours of contact, 8 hours of prep
- 2020 Glycosylation in Health and Disease (GBSC-743, Topic: Anti-glycan antibodies - structure-function), Lecturer, Graduate Biomedical Science, Advanced Course, Department of Microbiology, 1 hour of contact, 6 hours prep, **First offered in 2020**

- 2019 Protein/DNA X-ray Crystallography (GBSC-717), **Course Director and Founder**, Graduate Biomedical Science, Advanced Course, 38 hours of contact, 100+ hours of prep
- 2019 Journal Club in Structural Biology (GBS 786J), **Course Director**, Fall Semester, Graduate Biomedical Science, Advanced Course, 13 hours of contact per year, 13 hours of prep per year
- 2019 Journal Club in Structural Biology (GBS 786J), **Course Director**, Spring Semester, Graduate Biomedical Science, Advanced Course, 13 hours of contact per year, 13 hours of prep per year
- 2019 Structural Biology for Micro (GBS-764, Topic: Protein structure, Structural Techniques, Protein crystallography, Evaluation of literature), Lecturer, Graduate Biomedical Science, Microbiology Theme, 6 of hours, 10 hours of prep
- 2019 Virology (GBS 762, Topic: Virus Structure), Lecturer, Graduate Biomedical Science, Microbiology Theme, 2 hours of contact, 4 hours of prep
- 2019 Immune Deficiency Team-based learning Sessions Block 5 Topic: Bacteria/Immunology (UAB School of Medicine), Lecturer, 2 hours of contact, 6 hours of prep
- 2019 Fundamentals of Dentistry and Optometry II (OBHS 112, Topic: Negative Strand RNA viruses), Lecturer, School of Optometry and School of Dentistry, 1 hours of contact, 6 hours of prep
- 2018 Journal Club in Structural Biology (GBS 786J), **Course Director**, Fall Semester, Graduate Biomedical Science, Advanced Course, 13 hours of contact per year, 13 hours of prep per year
- 2018 Journal Club in Structural Biology (GBS 786J), **Course Director**, Spring Semester, Graduate Biomedical Science, Advanced Course, 13 hours of contact per year, 13 hours of prep per year
- 2018 Fundamentals of Dentistry and Optometry II (OBHS 112, Topic: Negative Strand RNA viruses), Lecturer, School of Optometry and School of Dentistry, 1 hours of contact, 6 hours of prep
- 2018 Structural Biology for Micro (GBS-764, Topic: Protein structure, Structural Techniques, Protein crystallography, Evaluation of literature), Lecturer, Graduate Biomedical Science, Microbiology Theme, 6 of hours, 10 hours of prep
- 2018 Virology (GBS 762, Topic: Virus Structure), Lecturer, Graduate Biomedical Science, Microbiology Theme, 2 hours of contact, 4 hours of prep
- 2018 Fundamentals of Medicine: Block 5, Virology Small Case Study (UAB School of Medicine), Lecturer, 4 hours of contact, 6 of hours prep
- 2017 Journal Club in Structural Biology (GBS 786J), **Course Director**, Fall Semester, Graduate Biomedical Science, Advanced Course, 13 hours of contact per year, 13 hours of prep per year
- 2017 Journal Club in Structural Biology (GBS 786J), **Course Director**, Spring Semester, Graduate Biomedical Science, Advanced Course, 13 hours of contact per year, 13 hours of prep per year
- 2017 Protein/DNA X-ray Crystallography (GBSC-717), **Founder/Co-Director and Founder**, Graduate Biomedical Science, Advanced Course, 38 hours of contact, 100+ hours of prep

- 2017 Intro to Structural Biology and Advanced Techniques (GBSC-716-VTA, Topic: Protein Crystallography), Lecturer, Department of Microbiology, University of Alabama at Birmingham, 4 hours of contact, 8 hours of prep
- 2017 Virology (GBS 762, Topic: Virus Structure), Lecturer, Graduate Biomedical Science, Microbiology Theme, 2 hours of contact, 4 hours of prep
- 2017 Fundamentals of Medicine: Block 5, Virology Small Case Study (UAB School of Medicine), Lecturer, 4 hours of contact, 6 of hours prep
- 2016 Intro to Structural Biology and Advanced Techniques (GBSC-716-VTA, Topic: Protein Crystallography), Lecturer, Department of Microbiology, University of Alabama at Birmingham, 4 hours of contact, 8 hours of prep
- 2016 Journal Club in Structural Biology (GBS 786J), **Course Director**, Fall Semester, Graduate Biomedical Science, Advanced Course, 13 hours of contact per year, 13 hours of prep per year
- 2016 Journal Club in Structural Biology (GBS 786J), **Course Director**, Spring Semester, Graduate Biomedical Science, Advanced Course, 13 hours of contact per year, 13 hours of prep per year
- 2016 Virology (GBS 762, Topic: Virus Structure), Lecturer, Graduate Biomedical Science, Microbiology Theme, 2 hours of contact, 4 hours of prep
- 2015 Protein/DNA X-ray Crystallography (GBSC-717), **Course Director and Founder**, Graduate Biomedical Science, Advanced Course, 38 hours of contact, 100+ hours of prep
- 2015 Journal Club in Structural Biology (GBS 786J), **Course Director**, Fall Semester, Graduate Biomedical Science, Advanced Course, 13 hours of contact per year, 13 hours of prep per year
- 2015 Journal Club in Structural Biology (GBS 786J), **Course Director**, Spring Semester, Graduate Biomedical Science, Advanced Course, 13 hours of contact per year, 13 hours of prep per year
- 2015 Virology (GBS 762, Topic: Virus Structure), Lecturer, Graduate Biomedical Science, Microbiology Theme, 2 hours of contact, 4 hours of prep
- 2014 Journal Club in Structural Biology (GBS 786J), **Course Director**, Fall Semester, Graduate Biomedical Science, Advanced Course, 13 hours of contact per year, 13 hours of prep per year
- 2014 Journal Club in Structural Biology (GBS 786J), **Course Director**, Spring Semester, Graduate Biomedical Science, Advanced Course, 13 hours of contact per year, 13 hours of prep per year
- 2014 BSB (Biochemistry and Structural Biology) Lab Methods (GBS 780, Topic: Protein Crystallography), Lecturer, University of Alabama at Birmingham, 2 hours contact, 6 hours prep
- 2014 Virology (GBS 762, Topic: Virus Structure), Lecturer, Graduate Biomedical Science, Microbiology Theme, 2 hours of contact, 4 hours of prep
- 2013 Journal Club in Structural Biology (GBS 786J), **Course Director**, Fall Semester, Graduate Biomedical Science, Advanced Course, 13 hours of contact per year, 13 hours of prep per year
- 2013 Journal Club in Structural Biology (GBS 786J), **Course Director**, Spring Semester, Graduate Biomedical Science, Advanced Course, 13 hours of contact per year, 13 hours of prep per year
- 2013 BSB (Biochemistry and Structural Biology) Lab Methods (GBS 780, Topic: Protein Crystallography), Lecturer, University of Alabama at Birmingham, 2 hours contact, 6 hours prep

- 2012 Fundamentals of Dentistry and Optometry II (OBHS 112, Topic: Negative Strand RNA viruses), Lecturer, School of Optometry and School of Dentistry, 1 hours of contact, 6 hours of prep
- 2012 Journal Club in Structural Biology (GBS 786J), Class moderator, Graduate Biomedical Science, Advanced Course, 3 hours of contact, 3 hours of prep
- 2008 Protein Crystallography (Topics: Patterson Maps and Fourier Maps, Programs, Crystallographic Refinement), Lecturer, Graduate School, University of Alabama at Birmingham, 4 hours of contact, 8 hours of prep
- 2007 Protein Structure and Function (Topics: Polymerase Structures, Capsid Structures), Lecturer, Graduate School, University of Alabama at Birmingham, 4 hours of contact, 6 hours of prep
- 2006 Protein Crystallography (Topics: Patterson Maps and Fourier Maps, Programs, Crystallographic Refinement), Lecturer, Graduate School, University of Alabama at Birmingham, 4 hours of contact, 8 hours of prep

Mentoring:

Pre-doctoral Students Training in my Lab:

- 2016 – 2020 Joseph Gould, Doctoral student, Microbiology Theme, Department of Microbiology, University of Alabama at Birmingham
Postdoctoral fellow with Dr. Jamie B. Spangler, Johns Hopkins University, Baltimore, Md
- 2019 – present Jordan Lingo, Doctoral student, Microbiology Theme, Department of Microbiology, University of Alabama at Birmingham

International Pre-doctoral Mentorship:

- 2020 – present B. Knoppova, Doctoral student, Immunopharmacotherapy Program, Faculty of Medicine and Dentistry, Palacký University Olomouc and University Hospital Olomouc, Olomouc, Czech Republic (Primary Mentor: Milan Raška, M.D., Ph.D., Palacký University Olomouc, Olomouc, Czech Republic)
I serve as a local pre-doctoral Mentor for this student who is a Visiting Scientist at UAB.

Pre-doctoral Assisted:

My duty with these students has been to aid in their scientific development by providing them with an environment to help them achieve their goals in the discipline of structural biology. I have been involved in direct teaching of these students from other laboratories advanced aspects of X-ray crystallography or protein modeling.

- 2005 – 2008 Xin Zhang, Masters student, Department of Microbiology (Laboratory of Dr. Ming Luo), University of Alabama at Birmingham, Masters Degree received in 2008, five coauthored manuscripts
- 2009 – 2014 Robert Cox, Doctoral student, Department of Microbiology (Laboratory of Dr. Ming Luo), University of Alabama at Birmingham, PhD received in 2014, three coauthored manuscripts
- 2010 – 2015 Michael Rowse, Doctoral student, Department of Microbiology (Laboratory of Dr. Ming Luo), University of Alabama at Birmingham, PhD received in 2015, two coauthored manuscripts.

- 2014 – 2014 Bharat Reddy, Doctoral student, Department of Microbiology (Laboratory of Dr. Lawrence Delucas,) University of Alabama at Birmingham, PhD received in Dr. Reddy 2014, one coauthored manuscript
- 2015 – 2019 Alexander Kleinpeter, Doctoral student, Department of Biochemistry and Molecular Genetics (Laboratory of Dr. Chad Petit), University of Alabama at Birmingham, PhD received in 2019, one coauthored manuscript
- 2016 – 2019 Audra Laube, Doctoral Student, Department of Biochemistry and Molecular Genetics (Laboratory of Dr. Matthew Renfrow), University of Alabama at Birmingham, PhD received in 2019, one coauthored manuscript
- 2016 – 2019 Barbora Knoppova, Student/Visiting Scientist, Laboratory of Dr. Jan Novak, Department of Microbiology, University of Alabama at Birmingham, Two published manuscripts with Ms. Knoppova, two additional manuscripts in preparation

Graduate Steering Committee Memberships:

Undergraduate Students:

- 2014 – 2016 Chapelle Ayres, UAB SciTech Honors Program, University of Alabama at Birmingham * **Graduated 2016**
Mentor: Dr. Debasish Chattopadhyay
- 2015 – 2015 Sara Liaghati-Mobarhan, UAB SciTech Honors Program (*Private Defense only*), University of Alabama at Birmingham * **Graduated 2015**
Mentor: Dr. Lawrence Delucas
- 2020 – present Dionna Walker, UAB SciTech Honors Program, University of Alabama at Birmingham
Mentor: Dr. Charles L. Turnbough, Jr.

Doctoral Students:

- 2011 – 2011 Baldeep Khare, Doctoral Dissertation Committee Member, Department of Biochemistry and Molecular Genetics, School of Medicine, University of Alabama at Birmingham * **Graduated 2011**
Mentor: Dr. Narayana Sthanam
- 2014 – 2018 Christopher Radka, Doctoral Dissertation Committee Member, Department of Microbiology, School of Medicine, University of Alabama at Birmingham
Mentor: Dr. Lawrence DeLucas * **Graduated 2018**
- 2014 – 2020 Keith Manning, Doctoral Dissertation Committee Member, Department of Microbiology, School of Medicine, University of Alabama at Birmingham
Mentor: Dr. Terje Dokland * **Chair of Committee * Graduated 2020**
- 2014 – 2019 Christina Le, Doctoral Dissertation Committee Member, Department of Pharmacology, School of Medicine, University of Alabama at Birmingham
Mentor: Dr. Stephen Aller * **Graduated 2019**
- 2014 – 2015 Chong Tian, Doctoral Dissertation Committee Member, Department of Chemistry, College of Arts and Sciences, University of Alabama at Birmingham * **Left the program 2015**
Mentor: Dr. Margaret Johnson
- 2015 – 2019 Alexander B Kleinpeter, Doctoral Dissertation Committee Member, Department of Biochemistry and Molecular Genetics, School of Medicine, University of Alabama at Birmingham * **Graduated 2019**
Mentor: Dr. Chad Petit

- 2015 – 2019 Kartik Manne, Doctoral Dissertation Committee Member, Department of Mechanical Engineering, School of Engineering, University of Alabama at Birmingham * **Graduated 2019**
Mentor: Dr. Narayana Sthanam
- 2015 – 2019 Joshua Justice, Doctoral Dissertation Committee Member, Department of Microbiology, School of Medicine, University of Alabama at Birmingham
Mentor: Dr. Sunnie Thompson * **Graduated 2019**
- 2015 – 2019 Alex Jureka, Doctoral Dissertation Committee Member, Department of Biochemistry and Molecular Genetics, School of Medicine, University of Alabama at Birmingham * **Graduated 2019**
Mentor: Dr. Chad Petit
- 2016 – present James L. Kizziah, Doctoral Dissertation Committee Member, Department of Microbiology, School of Medicine, University of Alabama at Birmingham
Mentor: Dr. Terje Dokland * **Graduated 2021**
- 2016 – 2019 R. Elliot Murphy, Doctoral Dissertation Committee Member, Department of Microbiology, School of Medicine, University of Alabama at Birmingham
Mentor: Dr. Jamil Saad * **Graduated 2019**
- 2016 – 2019 Audra Laube, Doctoral Dissertation Committee Member, Department of Biochemistry and Molecular Genetics, School of Medicine, University of Alabama at Birmingham * **Graduated 2019**
Mentor: Dr. Matthew Renfrow
- 2018 – present N'Toia Hawkins, Doctoral Dissertation Committee Member, Department of Microbiology, School of Medicine, University of Alabama at Birmingham
Mentor: Dr. Terje Dokland * **Chair of Committee**
- 2018 – present Naiduwadura Ivon Upekala De Silva, Doctoral Dissertation Committee Member, Department of Chemistry, College of Arts and Sciences, University of Alabama at Birmingham
Mentor: Dr. Margaret Johnson 2018-2019
Mentor: Dr. Jun Zhang 2019 - present
- 2018 – present Morgan Blake, Doctoral Dissertation Committee Member, Department of Biochemistry and Molecular Genetics, School of Medicine, University of Alabama at Birmingham
Mentor: Dr. Chad Petit * **Chair of Committee**
- 2018 – present Joshua Mieher, Doctoral Dissertation Committee Member, Department of Biochemistry and Molecular Genetics, School of Medicine, University of Alabama at Birmingham * **Chair of Committee * Graduated 2021**
Mentor: Dr. Champion Deivanayagam
- 2019 – present Marvin Bowlin, Doctoral Dissertation Committee Member, Department of Microbiology, School of Medicine, University of Alabama at Birmingham
Mentor: Dr. Michael Gray * **Expected Graduation Spring 2021**
- 2019 – 2020 Kirsten Dotson, Doctoral Dissertation Committee Member, Department of Biochemistry and Molecular Genetics, School of Medicine, University of Alabama at Birmingham
Mentor: Dr. William Placzek
- 2019 – present Dominik Herrmann, Doctoral Dissertation Committee Member, Department of Microbiology, School of Medicine, University of Alabama at Birmingham
Mentor: Dr. Jamil Saad * **Chair of Committee**
- 2019 – present John Sanford, Doctoral Dissertation Committee Member, Department of Pediatrics, School of Medicine, University of Alabama at Birmingham

- Mentor: Dr. Prescott Atkinson
 2019 – present Rhea Derke, Doctoral Dissertation Committee Member, Department of Microbiology, School of Medicine, University of Alabama at Birmingham
- Mentor: Dr. Michael Gray * **Graduated 2021**
 2020 – present Meredith Sapp, Doctoral Dissertation Committee Member, Department of Biochemistry and Molecular Genetics, School of Medicine, University of Alabama at Birmingham
- Mentor: Dr. Chad Petit
 2020 – present Julia Williams, Doctoral Dissertation Committee Member, Department of Microbiology, School of Medicine, University of Alabama at Birmingham
- Mentor: Dr. Michael Gray
 2020 – present Kaila Fuller, Doctoral Dissertation Committee Member, Department of Chemistry, College of Arts and Sciences, University of Alabama at Birmingham
- Co-Mentors: Dr. Aaron Lucius and Dr. David Schneider
 2020 – present Trenton Paul, Doctoral Dissertation Committee Member, Department of Chemistry, College of Arts and Sciences, University of Alabama at Birmingham
- Mentor: Dr. Jun Zhang
 2020 – present Cole Martin, Doctoral Dissertation Committee Member, Department of Pharmacology, School of Medicine, University of Alabama at Birmingham
- Mentor: Dr. Stephen Aller

Junior Faculty Mentoring Committees:

- 2019 – present Dr. Carrie Coleman, Faculty Mentoring Committee Member, Department of Microbiology, School of Medicine, University of Alabama at Birmingham
- 2020 – present Dr. Nicholas Lennemann, Faculty Mentoring Committee Member, Department of Microbiology, School of Medicine, University of Alabama at Birmingham

Comprehensive Exam Committees:

None

Rotating Lab Students:

Graduate:

- Fall 2015 Joseph Gould, Microbiology Theme, School of Medicine, University of Alabama at Birmingham
- Fall 2016 Jeffrey Grimes, Microbiology Theme, School of Medicine, University of Alabama at Birmingham
- Fall 2018 John Sanford, Microbiology Theme, School of Medicine, University of Alabama at Birmingham
- Fall 2018 Jordan Lingo, Microbiology Theme, School of Medicine, University of Alabama at Birmingham

Undergraduate:

None

GRANT SUPPORT:

CURRENT GRANTS (arranged according to role and end date):

Source: National Institutes of Health, NIAID Multi-PI R01, R01AI149431 [Green, Todd J and Novak, Jan]

Title: Pathogenic Autoantibodies with Specificity for Aberrant Glycoproteins: Assessment of a Therapeutic Target in an Autoimmune Disease

Role: Contact Principal Investigator

Period: 3/01/20 – 2/28/25

Direct costs: \$1,749,995

Impact Score: 20.0, Percentile: 3.0

Source: SRA Altimmune Amendment 1 (Lund, Frances)

Title: Preclinical Modeling of Altimmune COVID-19 vaccine platform in mice

Role: Co-Investigator

Period: 05/01/2021 – 03/29/21

Total Costs: \$732,410

An additional extension through 06/30/2021 is pending.

Source: National Institutes of Health, NIAID U19 AI142737 Supplement (Lund, Frances)

Title: Cooperative Centers on Human Immunology: Tissue and organ specific human B cell immunity Supplement – B cell responses in coronavirus infected individuals

Role: Co-Investigator

Period: 04/01/2020 – 03/31/2022

Direct costs: \$889,872

Source: National Institutes of Health, NIAID 1R01AI134693-01 (Petit, Chad)

Title: Strain Dependent Structure and Function of the Influenza NS1 Protein

Role: Co-Investigator

Period: 11/16/2017 – 10/31/2022

Direct costs: \$1,250,000

Source: National Institutes of Health, NIDDK Multi-PI R01 DK127497 (Tse, Hubert, Contact PI)

Title: Determining the Mechanism of IFIH1 Disease-associated Variants on Beta-cell and Immune Responses in Type 1 Diabetes

Role: Co-Investigator

Period: 9/15/2020 – 6/30/2024

Direct Costs: \$ 3,928,544

Source: National Institutes of Health, NIAID 9R01AI150901-10 (Saad, Jamil)

Title: Structural basis for HIV-1 Gag interactions with cellular and viral constituents

Role: Investigator

Period: 09/01/2019 – 08/31/2023

Direct costs: \$ 1,229,688

Source: National Institutes of Health, S10 Instrumentation Grant, 1S10OD024978 (Dokland, Terje, PI)

Title: Acquisition of Cryo-electron Microscope

Role: Major User

Period: 09/05/2020 – 09/04/2021

Direct costs: \$1,993,586

Source: National Institutes of Health, NIAID R01AI146172 [Ogino, Tomoaki (University of Toledo)]
Title: Dissecting catalytic and regulatory functions of nonsegmented negative strand RNA viral polymerases
Role: Significant Contributor
Period: 06/01/2019 – 05/31/2024

PENDING SUBMITTED GRANTS:

Source: National Institutes of Health, NIAID Multi-PI R01 AI162236 (Renfrow, Matthew B., Contact PI, and Jan Novak, PI)
Title: Defining Impact of Microdomains of HIV-1 Env Glycan Shield
Role: Co-Investigator
Period: 07/01/2021 – 06/30/2026
Direct costs: \$2,471,560
Impact Score: 31, Percentile: 10.0 *Just In Time Documentation Requested*

Source: National Institutes of Health, NIAID R01 AI161048 (Walter, Mark, PI)
Title: Design and Testing of a Multi-valent Neutralizing Antibody Formulation for SARS-CoV-2
Role: Co-Investigator
Period: 10/01/2020 – 09/30/2022
Direct costs: \$1,407,490

Source: National Institutes of Health, NIAID R21 AI160994 (Petit, Chad, PI)
Title: Host-pathogen interactions of SARS-CoV-2 nonstructural protein 1
Role: Co-Investigator
Period: 10/01/2020 – 09/30/2022
Direct costs: \$275,000

PAST GRANTS:

Source: National Institutes of Health, R01 NIAID, R01AI116738 (**Green, Todd J**)
Title: Transcription and replication in nonsegmented negative-strand RNA viruses
Role: Principal Investigator
Period: 01/01/15 - 12/31/20 (NCE)
Direct costs: \$1,250,000

Source: National Institutes of Health, NIAID U19AI109962 (Randall, Troy D)
Title: Virus-induced Cell Fate Decisions in Anti-Viral Immunity – Core B
Role: Co-Investigator
Length: 08/01/2014 – 07/31/2019
Direct costs: \$728,090

Source: National Aeronautics and Space Administration (NASA), NNJ12HA74G (DeLucas, LJ)
Role: Co-Investigator
Title: A Comprehensive Evaluation of Microgravity Protein Crystallization
Period: 10/1/2011 – 9/30/2016
Direct costs: \$5,297,171

Source: National Institutes of Health, NIAID 1R56AI101087-01A1 (**Green, Todd J**)
Title: Structural Basis of Vesicular Stomatitis Virus Transcription and Replication
Role: Principal Investigator
Direct costs: \$235,000
Length: 08/9/13 - 07/31/15

Source: UAB Center for Structural Biology (**Green, Todd J**)
Title: Structural studies on the vesicular stomatitis virus L protein
Role: Principal Investigator
Length: 01/22/13 - 12/31/13
Direct costs: \$2,500

MANUSCRIPTS:

1. Setzer WN, **Green TJ**, Lawton RO, Moriarity DM, Bates RB, Caldera S, Haber WA. An antibacterial vitamin E derivative from *Tovomitopsis psychotriifolia*. *Planta Med.* **1995**;61(3):275-6. Epub 1995/06/01. doi: 10.1055/s-2006-958072. PubMed PMID: 7617773.
2. Setzer WN, **Green TJ**, Whitaker KW, Moriarity DM, Yancey CA, Lawton RO, Bates RB. A cytotoxic diacetylene from *Dendropanax arboreus*. *Planta Med.* **1995**;61(5):470-1. Epub 1995/10/01. doi: 10.1055/s-2006-958139. PubMed PMID: 7480210.
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4. **Green TJ**, Macpherson S, Qiu S, Lebowitz J, Wertz GW, Luo M. Study of the assembly of vesicular stomatitis virus N protein: role of the P protein. *J Virol.* **2000**;74(20):9515-24. Epub 2000/09/23. doi: 10.1128/jvi.74.20.9515-9524.2000. PubMed PMID: 11000221; PMCID: PMC112381.
5. Ding H, Qiu S, Li S, Symersky J, **Green TJ**, Luo M. Expression, purification, crystallization of fragments from the C-terminal region of DFF45/ICAD. *Acta Crystallogr D Biol Crystallogr.* **2003**;59(Pt 7):1323-6. Epub 2003/07/02. doi: 10.1107/s0907444903010692. PubMed PMID: 12832800.
6. Chen Z, **Green TJ**, Luo M, Li H. Visualizing the RNA molecule in the bacterially expressed vesicular stomatitis virus nucleoprotein-RNA complex. *Structure.* **2004**;12(2):227-35. Epub 2004/02/14. doi: 10.1016/j.str.2004.01.001. PubMed PMID: 14962383.
7. Ding H, **Green TJ**, Luo M. Crystallization and preliminary X-ray analysis of a proteinase-K-resistant domain within the phosphoprotein of vesicular stomatitis virus (Indiana). *Acta Crystallogr D Biol Crystallogr.* **2004**;60(Pt 11):2087-90. Epub 2004/10/27. doi: 10.1107/S0907444904024102. PubMed PMID: 15502336.
8. Ding H, **Green TJ**, Lu S, Luo M. Crystal structure of the oligomerization domain of the phosphoprotein of vesicular stomatitis virus. *J Virol.* **2006**;80(6):2808-14. Epub 2006/02/28. doi: 10.1128/JVI.80.6.2808-2814.2006. PubMed PMID: 16501089; PMCID: PMC1395454.
9. **Green TJ**, Luo M. Resolution improvement of X-ray diffraction data of crystals of a vesicular stomatitis virus nucleocapsid protein oligomer complexed with RNA. *Acta Crystallogr D Biol Crystallogr.* **2006**;62(Pt 5):498-504. Epub 2006/04/22. doi: 10.1107/S0907444906006809. PubMed PMID: 16627942.
10. **Green TJ**, Zhang X, Wertz GW, Luo M. Structure of the vesicular stomatitis virus nucleoprotein-RNA complex. *Science.* **2006**;313(5785):357-60. Epub 2006/06/17. doi: 10.1126/science.1126953. PubMed PMID: 16778022.

This work revealed the molecular structure of the VSV N protein and provided the first look at how a negative-strand RNA virus capsid assembles and encapsidates RNA. The principles of negative strand virus assembly and RNA structure that we described at this time hold true today. This work has been cited 303 times.

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12. Luo M, ***Green TJ***, Zhang X, Tsao J, Qiu S. Structural comparisons of the nucleoprotein from three negative strand RNA virus families. *Viol J.* **2007**;4:72. Epub 2007/07/12. doi: 10.1186/1743-422X-4-72. PubMed PMID: 17623082; PMCID: PMC2031895.
13. Luo M, ***Green TJ***, Zhang X, Tsao J, Qiu S. Conserved characteristics of the rhabdovirus nucleoprotein. *Virus Res.* **2007**;129(2):246-51. Epub 2007/09/04. doi: 10.1016/j.virusres.2007.07.011. PubMed PMID: 17764775; PMCID: PMC2082134.
14. ***Green T***, Grigorian A, Klyuyeva A, Tuganova A, Luo M, Popov KM. Structural and functional insights into the molecular mechanisms responsible for the regulation of pyruvate dehydrogenase kinase 2. *J Biol Chem.* **2008**;283(23):15789-98. Epub 2008/04/05. doi: 10.1074/jbc.M800311200. PubMed PMID: 18387944; PMCID: PMC2414299.
15. Luo M, ***Green TJ***, Zhang X, Tsao J, Qiu S. Structural comparison of the nucleoprotein from influenza virus with other NSV nucleoproteins. *Options for the control of influenza virus VI.* **2008**. pp. 58.
16. Zhang X, ***Green TJ***, Tsao J, Qiu S, Luo M. Role of intermolecular interactions of vesicular stomatitis virus nucleoprotein in RNA encapsidation. *J Virol.* **2008**;82(2):674-82. Epub 2007/11/16. doi: 10.1128/JVI.00935-07. PubMed PMID: 18003727; PMCID: PMC2224587.
17. Cox R, ***Green TJ***, Qiu S, Kang J, Tsao J, Prevelige PE, He B, Luo M. Characterization of a mumps virus nucleocapsidlike particle. *J Virol.* **2009**;83(21):11402-6. Epub 2009/08/21. doi: 10.1128/JVI.00504-09. PubMed PMID: 19692473; PMCID: PMC2772791.
18. ***Green TJ***, Luo M. Structure of the vesicular stomatitis virus nucleocapsid in complex with the nucleocapsid-binding domain of the small polymerase cofactor, P. *Proc Natl Acad Sci U S A.* **2009**;106(28):11713-8. Epub 2009/07/03. doi: 10.1073/pnas.0903228106. PubMed PMID: 19571006; PMCID: PMC2710649.
 One function of the viral phosphoprotein, P, is to mediate the interaction of the viral polymerase with the nucleocapsid-RNA template. This manuscript reveals the structure of assembled nucleocapsid-like particles in complex with P revealing how the polymerase from a negative strand RNA virus initiates contact with the viral template. This work also showed that the C-terminal domain of P recognizes a bipartite site that is only found on the assembled nucleocapsid.
19. Meng G, Bai X, ***Green TJ***, Luo M, Zheng X. Crystallization and preliminary X-ray crystallographic studies on SI-CLP, a novel human Glyco_18 domain-containing protein. *Protein Pept Lett.* **2009**;16(3):336-8. Epub 2009/03/12. doi: 10.2174/092986609787601660. PubMed PMID: 19275751.
20. Ge P, Tsao J, Schein S, ***Green TJ***, Luo M, Zhou ZH. Cryo-EM model of the bullet-shaped vesicular stomatitis virus. *Science.* **2010**;327(5966):689-93. Epub 2010/02/06. doi: 10.1126/science.1181766. PubMed PMID: 20133572; PMCID: PMC2892700.
 In collaboration with Dr. Z. Hong Zhou's group (UCLA), the structure of the mature, intact VSV virion was determined by cryo-electron microscopy. This work was a formidable achievement that showed us how the nucleocapsid, the matrix protein, and the glycoprotein interact in the intact virion. It also illustrated how the nucleocapsid undergoes rearrangement to produce the unique bullet shaped virion.
21. Meng G, Zhao Y, Bai X, Liu Y, ***Green TJ***, Luo M, Zheng X. Structure of human stabilin-1 interacting chitinase-like protein (SI-CLP) reveals a saccharide-binding cleft with lower sugar-

- binding selectivity. *J Biol Chem.* **2010**;285(51):39898-904. Epub 2010/08/21. doi: 10.1074/jbc.M110.130781. PubMed PMID: 20724479; PMCID: PMC3000971.
22. **Green TJ**, Rowse M, Tsao J, Kang J, Ge P, Zhou ZH, Luo M. Access to RNA encapsidated in the nucleocapsid of vesicular stomatitis virus. *J Virol.* **2011**;85(6):2714-22. Epub 2010/12/24. doi: 10.1128/JVI.01927-10. PubMed PMID: 21177817; PMCID: PMC3067934.
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 26. Reddy BG, Moates DB, Kim HB, **Green TJ**, Kim CY, Terwilliger TC, DeLucas LJ. 1.55 Å resolution X-ray crystal structure of Rv3902c from *Mycobacterium tuberculosis*. *Acta Crystallogr F Struct Biol Commun.* **2014**;70(Pt 4):414-7. Epub 2014/04/05. doi: 10.1107/S2053230X14003793. PubMed PMID: 24699730; PMCID: PMC3976054.
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 28. Qiu S, Ogino M, Luo M, Ogino T, **Green TJ**. Structure and Function of the N-Terminal Domain of the Vesicular Stomatitis Virus RNA Polymerase. *J Virol.* **2016**;90(2):715-24. Epub 2015/10/30. doi: 10.1128/JVI.02317-15. PubMed PMID: 26512087; PMCID: PMC4702691.
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 30. Kleinpeter AB, Jureka AS, Falahat SM, **Green TJ**, Petit CM. Structural analyses reveal the mechanism of inhibition of influenza virus NS1 by two antiviral compounds. *J Biol Chem.* **2018**;293(38):14659-68. Epub 2018/08/05. doi: 10.1074/jbc.RA118.004012. PubMed PMID: 30076219; PMCID: PMC6153301.
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35. Ogino T, **Green TJ**. RNA Synthesis and Capping by Non-segmented Negative Strand RNA Viral Polymerases: Lessons From a Prototypic Virus. *Front Microbiol.* **2019**;10:1490. Epub 2019/07/30. doi: 10.3389/fmicb.2019.01490. PubMed PMID: 31354644; PMCID: PMC6636387. *Invited Review*
36. Rizk DV, Maillard N, Julian BA, Knoppova B, **Green TJ**, Novak J, Wyatt RJ. The Emerging Role of Complement Proteins as a Target for Therapy of IgA Nephropathy. *Front Immunol.* **2019**;10:504. Epub **2019**/04/04. doi: 10.3389/fimmu.2019.00504. PubMed PMID: 30941137; PMCID: PMC6433978. *Invited Review*
37. Gould JR, Qiu S, Shang Q, Ogino T, Prevelige PE, Jr., Petit CM, **Green TJ**. The Connector Domain of Vesicular Stomatitis Virus Large Protein Interacts with the Viral Phosphoprotein. *J Virol.* **2020**;94(6). Epub 2020/01/04. doi: 10.1128/JVI.01729-19. PubMed PMID: 31896592; PMCID: PMC7158708.
38. Schormann N, Campos, J, Motamed R, Hayden KL, Gould JR, **Green TJ**, Senkovich O, Banerjee S, Ulett G, Chattopadhyay D. *Chlamydia trachomatis* Glyceraldehyde 3-phosphate dehydrogenase: Enzyme Kinetics, High Resolution Crystal Structure and Plasminogen Binding. *Protein Science.* **2020**. Epub 2020/10/15. doi: 10.1002/pro.3975. PubMed PMID: 33058314
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40. Gould JR, Qiu S, Shang Q, Ogino T, Dokland T, Petit C, **Green TJ**. Consequences of Phosphorylation in a Mononegavirales Polymerase-Cofactor System. *J Virol.* **2021**;JVI.02180-20. doi: 10.1128/JVI.02180-20, PMID: 33441337,
41. Eastep GN, Ghanam RH, **Green TJ**, Saad JS. 2021. Structural characterization of HIV-1 matrix mutants implicated in envelope incorporation. *J Biol Chem.* **2021**;100321. doi: 10.1016/j.jbc.2021.100321, PMID: 33485964.
42. Dominguez F, Shiliaev N, Lukash T, Agback P, Agback T, Gould JR, Meshram C, Prevelige PE, **Green TJ**, Elena EI, Frolova E, Frolov I. 2021. NAP1L1 and NAP1L4 binding to Hypervariable Domain of Chikungunya Virus nsP3 Protein is bivalent and requires phosphorylation. *J Virol.* JVI0083621. doi: 10.1128/JVI.00836-21. Epub ahead of print. PMID: 34076483

Book Chapters Published:

1. Luo M, **Green TJ**, Zhou ZH. **2011**. Assembly of Vesicular Stomatitis Virus, p. 175-191. In: Negative strand RNA virus. Dr. Ming Luo (editor), World Scientific, Singapore; Hackensack, NJ.
2. Ogino T, **Green TJ**. **2021**. Catalysis of mRNA Capping with GDP Polyribonucleotidyltransferase Activity of Rabies Virus L Protein, p. 459-74. In: Human Viruses: Diseases, Treatments and Vaccines : The New Insights. Shamim I. Ahmad (editor), Springer International Publishing,

Cham, Switzerland.

Editorial Works:

2. *Viruses*. Special Issue: Viral Enzymes. Guest Editor with Yizhi Tao, Ph.D. (Rice University). https://www.mdpi.com/journal/viruses/special_issues/ViralEnzymes.

Manuscripts in revision:

- 1.

Manuscripts submitted:

1. King RG, Silva-Sanchez A, Peel J, Botta D, Meza-Perez S, Allie SR, Schultz M, Liu M, Bradley JE, Qiu S, Yang G, Zhou F, Zumaquero E, Simpler TS, Mousseau B, Killian JT, Dean B, Shang Q, Tipper JL, Risley C, Harrod K, Feng R, Lee Y, Shiberu B, Krishnan V, Peguillet I, Zhang J, **Green TJ**, Randall TD, Georges B, Lund FE, Roberts S. Single-dose intranasal vaccination with AdCOVID elicits systemic and mucosal immunity against SARS-CoV-2 in mice. *BioRxiv* Preprint. October 2020. Doi: 10.1101/2020.10.10.331348. PubMed PMID: 33052351. PMCID: PMC7553185
2. Shiliaev N, Lukash T, Palchevska O, Crossman DK, **Green TJ**, Crowley MR, Frolova EI, Frolov I. Natural isolate and recombinant SARS-CoV-2 rapidly evolve in vitro to higher infectivity through more efficient binding to heparan sulfate and reduced S1/S2 cleavage. *In Review at Journal of Virology* June 2021.

Book Chapter submitted:

- 1.

Manuscripts in preparation:

1. **Green TJ**. Nonsegmented negative strand RNA virus capsid proteins. *In Preparation for submission to Viruses due May 2021. Invited Review for special issue "Virus Assembly through the Lens of Structural Biology."*
2. Knoppova B, Novak, J, **Green TJ**. Title TBD. *In Preparation for submission to Journal of Clinical Medicine due April 2021. Invited Review for Special Issue "New Insights into the Pathogenesis and Therapies of IgA Nephropathy."*
3. Pacl HT, Tippe JL, Sevalkar RR, Crouse A, UAB Precision Medicine Institute, Holder GP, Kuhlman CJ, Chinta KC, Nadeem S, **Green TJ**, Petit CM, Steyn AJC, Might M, Harrod KS. Water-soluble tocopherol derivatives inhibit SARS-CoV-2 RNA-dependent RNA polymerase. *In Preparation for submission to Nature*.
4. Minako Ogino M, **Green TJ**, Ogino T. GDP polyribonucleotidyltransferase domain of vesicular stomatitis virus polymerase regulates leader-promoter escape and polyadenylation-coupled termination during stop-start transcription. *In Preparation for submission to Plos Pathogens*.

Protein Models:

Protein molecular models published to the Research Collaboratory for Structural Bioinformatics Protein Data Bank (RCSB PDB):

Professionally, my expertise and proficiency in structural biology has led to my collaboration with investigators locally, nationally and internationally on viral, bacterial, human and murine targets. A list of novel structures deposited to the PDB from my personal and collaborative projects is provided here:

1. 2GIC, Crystal Structure of a vesicular stomatitis virus nucleocapsid-RNA complex
2. 3PTO, Crystal Structure of an empty Vesicular Stomatitis Virus Nucleocapsid Protein Complex
3. 3PTX, Crystal Structure of a vesicular stomatitis virus nucleocapsid-polyA complex
4. 3PU0, Crystal Structure of a vesicular stomatitis virus nucleocapsid-polyC complex
5. 3PU1, Crystal Structure of a vesicular stomatitis virus nucleocapsid-polyG complex
6. 3PU4, Crystal Structure of a vesicular stomatitis virus nucleocapsid-polyU complex
7. 2WYY, CryoEM Model of the vesicular stomatitis virus trunk
8. 3HHW, Complex of a vesicular stomatitis virus empty capsid with the nucleocapsid-binding domain of the phosphoprotein
9. 3HHZ, Complex of the vesicular stomatitis virus nucleocapsid and the nucleocapsid-binding domain of the phosphoprotein
10. 2QVJ, Crystal structure of a vesicular stomatitis virus nucleocapsid protein Ser290Trp mutant
11. 2FQM, Crystal structure of the oligomerization domain of the phosphoprotein of vesicular stomatitis virus
12. 3BXW, Crystal Structure of Stabilin-1 Interacting Chitinase-Like Protein, SI-CLP
13. 3CRK, Crystal structure of the PDHK2-L2 complex
14. 3CRL, Crystal structure of the PDHK2-L2 complex
15. 3ZL9, Crystal structure of the nucleocapsid protein from Schmallenberg virus
16. 3ZLA, Crystal structure of the nucleocapsid protein from Bunyamwera virus bound to RNA
17. 4EIJ, Structure of the Mumps virus phosphoprotein oligomerization domain
18. 4O6G, Crystal structure of protein Rv3902c from M. tuberculosis
19. 5CHS, Crystal structure of the N-terminal domain of the vesicular stomatitis virus large polymerase subunit, L
20. 5JY6, Structures of Streptococcus agalactiae GBS GAPDH in different enzymatic states
21. 5JYA, Structures of Streptococcus agalactiae GBS GAPDH in different enzymatic states
22. 5JYE, Structures of Streptococcus agalactiae GBS GAPDH in different enzymatic states
23. 5JYF, Structures of Streptococcus agalactiae GBS GAPDH in different enzymatic states
24. 6DGK, Crystal Structure of the Non-Structural Protein 1 (NS1) effector domain W187A mutant from the A/Brevig Mission/1/1918 (H1N1) strain of Influenza A Virus
25. 7JXR, Crystal Structure Human Immunodeficiency Virus-1 Matrix protein Mutant Q63R Crystal Form 1
26. 7JXS, Crystal Structure Human Immunodeficiency Virus-1 Matrix protein Mutant Q63R Crystal Form 2
27. 7K7P, Structure of SARS-CoV-2 nonstructural protein 1

Structures Completed - To Be Deposited Upon Publication

Pending manuscript 1:

28. XXXX, Crystal Structure of IgG Fab derived from a patient with IgA nephropathy
29. XXXX, Crystal Structure of IgG Fab derived from a patient with IgA nephropathy Crystal Form 2
30. XXXX, Crystal Structure of IgG Fab derived from a patient with IgA nephropathy, Mutant #1
31. XXXX, Crystal Structure of IgG Fab derived from a patient with IgA nephropathy, Mutant #2 Crystal Form 1
32. XXXX, Crystal Structure of IgG Fab derived from a patient with IgA nephropathy, Mutant #2 Crystal Form 2
33. XXXX, Crystal Structure of IgG Fab derived from a patient with IgA nephropathy, Mutant #3 Crystal Form 1
34. XXXX, Crystal Structure of IgG Fab derived from a patient with IgA nephropathy, Mutant #3 Crystal Form 2

Pending manuscript 2:

35. XXXX, Crystal Structure of IgG Fab derived from a healthy-control subject

36. XXXX, Crystal Structure of IgG Fab derived from a healthy-control subject, Crystal Form 2
37. XXXX, Crystal Structure of IgG Fab derived from a healthy-control subject, Mutant #1

Protein molecular models published to the Model Archive (<https://www.modelarchive.org>):

38. ma-5k432, Model of the VSV L terminal initiation complex
39. ma-pe4nf, Model of the Rabies virus L protein
40. ma-pmodq, Model of the Rabies virus L protein
41. ma-uqibu, Model of the Rabies virus L terminal de novo initiation complex

List of Collaborators on published structures:

- Dr. Ming Luo, University of Alabama at Birmingham and Georgia State University [1-17]
 Dr. Gail Wertz, University of Alabama at Birmingham and University of Virginia [1]
 Dr. Z. Hong Zhou, University of California, Los Angeles [7]
 Dr. Xiaofeng Zheng, Peking University, Beijing, China [12]
 Dr. Kirill Popov, University of Alabama at Birmingham [13,14]
 Dr. John Barr, University of Leeds, Leeds, England, UK [15,16]
 Dr. Lawrence Delucas, University of Alabama at Birmingham [18]
 Dr. Thomas Terwilliger, Los Alamos National Laboratory [18]
 Dr. Tomoaki Ogino, Case Western Reserve University and University of Toledo [19,38-41]
 Dr. Debasish Chattopadhyay, University of Alabama at Birmingham [20-23]
 Dr. Chad Petit, University of Alabama at Birmingham [24,27]
 Dr. Jamil S. Saad, University of Alabama at Birmingham [25,26]
 Dr. Jan Novak, University of Alabama at Birmingham [28-37]

Presentations:

* Todd J. Green presenting

- | | |
|-------------|---|
| May 1993 | An antibacterial vitamin E derivative from <i>Tovomitopsis psychotriifolia</i> , American Chemical Society Annual Meeting, Denver, CO * |
| August 1996 | Preliminary studies of the N and P protein complex from Vesicular Stomatitis Virus. XVII Congress and General Assembly of the International Union of Crystallography Joint Meeting. Seattle, WA * |
| March 2004 | Structural studies on the nucleocapsid protein of vesicular stomatitis virus. Southeast Collaborative Access Team (SER-CAT) Symposium, University of Alabama at Birmingham, Birmingham, AL * |
| April 2004 | Structural studies on the nucleocapsid of Vesicular Stomatitis Virus. Virology Discussion Group, University of Alabama at Birmingham, Birmingham, AL * |
| July 2004 | Structural Study of Vesicular Stomatitis Virus Nucleocapsid and its Complex with RNA. American Society for Virology Annual Meeting. McGill University, Montreal, Quebec, Canada * |
| April 2005 | Assembly of the Vesicular Stomatitis Virus Core. Virology Discussion Group, University of Alabama at Birmingham, Birmingham, AL * |
| July 2006. | Structure of the Vesicular Stomatitis Virus Nucleoprotein-RNA complex. American Society for Virology Annual Meeting. Madison, WI * |
| May 2009 | Structural studies of negative strand RNA viruses. Virology Discussion Group, University of Alabama at Birmingham, Birmingham, AL * |
| August 2009 | Structure of a negative strand RNA virus nucleocapsid in complex with the nucleocapsid-binding domain of the small polymerase cofactor, P. Joint Meeting of International Union of Biochemistry and Molecular Biology/Federation of |

- June 2010 Asian and Oceanian Biochemists and Molecular Biologists, Shanghai, China *
Assembly of the vesicular stomatitis virus nucleocapsid. Negative Strand Virus Meeting, Bruges, Belgium
- July 2012 From Constructs to Crystals: Nucleic Acid-Protein Complexes. American Crystallographic Association Meeting, Boston, MA, * *Invited Talk*
- October 2014 Capsid Structures of Negative Sense RNA Viruses. UAB Structural Biology Symposium 2014, University of Alabama at Birmingham, Birmingham, AL *
- February 2015 Structural studies with the large polymerase (L) subunit of a negative strand virus. Virology Discussion Group, University of Alabama at Birmingham, Birmingham, AL*
- April 2015 N, P and L: Understanding the key players in negative strand virus rePLICatioN, one letter at a time. Department of Microbiology, University of Alabama at Birmingham, Birmingham, AL *
- November 2015 Structural Analysis of Vesicular Stomatitis Virus N Protein Mutants. *Joseph Gould Presenting*. UAB Graduate Biomedical Sciences Fall Rotation Poster Session, Birmingham, AL
- November 2015 UAB Structural Biology Core Facility – X-ray Crystallography Core and Shared Resources Day, University of Alabama at Birmingham, Birmingham, AL *
- May 2016 Structural Studies on Mutations Affecting the C-terminal Loop of Vesicular Stomatitis Virus N Protein. *Joseph Gould Presenting*. UAB Microbiology Rotation Talks Meeting, Birmingham, AL
- June 2016 Structure-Function studies of VSV L, a negative-strand RNA viral polymerase, Faculty Retreat, Department of Microbiology, Birmingham Botanical Gardens, Birmingham, AL *
- June 2016 Structure-Function studies of the N-terminal domain of VSV L, a negative-strand RNA viral polymerase. Federation of American Societies for Experimental Biology (FASEB) - Virus Structure and Assembly meeting Steamboat Springs, CO *
- November 2016 Structures of Vesicular Stomatitis Virus N Protein Mutants. *Joseph Gould Presenting*. University of Alabama at Birmingham Microbiology Retreat, Whitesburg, GA
- March 2017 Structural Studies of Vesicular Stomatitis Virus Nucleocapsid Mutants. *Joseph Gould Presenting*. UAB Virology Discussion Group, Birmingham, AL
- March 2017 Structural Studies of Vesicular Stomatitis Virus Nucleocapsid Mutants. *Joseph Gould Presenting*. UAB Microbiology Monthly Department Meeting, Birmingham, AL
- April 2017 Structure-Function studies of a negative-strand RNA viral polymerase. Southeastern Regional Collaborative Access Team Annual Meeting, The Scripps Research Institute, Jupiter, FL *
- August 2017 Structure and Mobility Changes in VSV Nucleocapsid Protein Mutants. *Joseph Gould Presenting*. UAB GBSO Symposium, Birmingham, AL
- November 2017 Studies of structure and function with RNA virus polymerases. Microbiology Retreat, Joe Wheeler State Park, Rogersville, AL *
- November 2017 A Novel Protein Interaction Interface in Vesicular Stomatitis Virus. *Joseph Gould Presenting*. UAB Gail Cassell Microbiology Retreat, Joe Wheeler State Park, Rogersville, AL
- February 2018 A Novel Protein Interaction Interface in Vesicular Stomatitis Virus. *Joseph Gould Presenting*. UAB GBS Recruitment Reception, Birmingham, AL
- April 2018 The Connector Domain of Vesicular Stomatitis Virus Large Protein is an

- June 2018 Acceptor Site for Phosphoprotein Binding. Southeastern Regional Collaborative Access Team Annual Meeting, Georgia Institute of Technology, Atlanta, GA *
The Connector Domain of Vesicular Stomatitis Virus Large Protein is an Acceptor Site for Phosphoprotein Binding. *Joseph Gould Presenting*. Negative Strand Virus Meeting, Verona, Italy
- July 2018 The Connector Domain of Vesicular Stomatitis Virus Large Protein is an Acceptor Site for Phosphoprotein Binding. Federation of American Societies for Experimental Biology (FASEB) - Virus Structure and Assembly meeting Steamboat Springs, CO *
- August 2018 Structural Characterization of a Polymerase-Cofactor Interaction in Vesicular Stomatitis Virus. *Joseph Gould Presenting*. UAB GBSO Symposium 2018, Birmingham, AL
- January 2019 The Connector Domain of Vesicular Stomatitis Virus Large Protein is an Acceptor Site for Phosphoprotein Binding. *Joseph Gould Presenting*. UAB GBS Recruitment Reception, Birmingham, AL
- March 2019 Pathogenic Autoantibodies Specific for Aberrantly Glycosylated IgA1: Therapeutic Target in IgA Nephropathy, Presentation to IGA Nephropathy Foundation of America and NephCure Kidney International Members, University of Alabama at Birmingham, Birmingham, AL *
- May 2019 Pathogenic Autoantibodies Specific for Aberrantly Glycosylated IgA1: Therapeutic Target in IgA Nephropathy, Faculty Retreat, Department of Microbiology, Redmont Hotel, Birmingham, AL *
- June 2019 Characterizing HIV-1 Envelope N-glycan Shield: A Glycomics and Bioinformatics Method, *Audra Hargett Presenting*, 67th American Society for Mass Spectrometry Conference on Mass Spectrometry and Allied Topics, Georgia World Congress Center, Atlanta, GA
- October 2019 Molecular mechanisms of co-transcriptional mRNA processing by a multifunctional RNA polymerase of vesicular stomatitis virus, Tomoaki Ogino, Minako Ogino, Todd J Green, *Tomoaki Ogino presenting*, The 67th Annual Meeting of the Japanese Society for Virology, Tokyo Japan
- November 2019 Characterization of IgG Autoantibody that Binds Galactose-deficient IgA1 and Forms Immune Complexes Mimicking Those in IgA Nephropathy. Barbora Knoppova, Zina Moldoveanu, Stacy Hall, Zhiqiang Huang, Lea Novak, Bruce A. Julian, Jan Novak, Todd J. Green, *Barbora Knoppova presenting*, American Society of Nephrology (ASN), ASN Kidney Week 2019, Washington, DC
- March 2020 Structural studies of pathogenic autoantibodies associated with IgA nephropathy, Southeastern Regional Collaborative Access Team 17th Annual Meeting, Medical University of South Carolina, Charleston, SC. * **Cancelled due to Covid-19 Pandemic**
- June 2020 The GDP polyribonucleotidyltransferase domain in the L protein of vesicular stomatitis virus serves as a key regulator for stop-start transcription, Tomoaki Ogino, Minako Ogino, Todd J. Green, *Tomoaki Ogino presenting*, American Society for Virology Annual Meeting, Fort Collins, CO. **Cancelled due to Covid-19 Pandemic**
- June 2020 Vesicular Stomatitis Virus P Protein Phosphorylation in the L-P complex Joseph R. Gould, Shihong Qiu, Qiao Shang, Terje Dokland, Peter E. Prevelige, Chad M. Petit, Todd J. Green, *Joseph Gould presenting*, American Society for Virology Annual Meeting, Fort Collins, CO. **Cancelled due to Covid-19 Pandemic**

- June 2020 Characterizing binding and phosphorylation in the vesicular stomatitis virus polymerase-cofactor system. Joseph R. Gould, Shihong Qiu, Qiao Shang, Terje Dokland, Peter E. Prevelige, Tomoaki Ogino, Chad M. Petit, Todd J. Green, *Joseph Gould presenting*, Federation of American Societies for Experimental Biology (FASEB) - Virus Structure and Assembly meeting, Steamboat Springs, CO. **Cancelled due to Covid-19 Pandemic**
- June 2020 Structure-Function with a negative-strand RNA viral polymerase complex. Federation of American Societies for Experimental Biology (FASEB) - Virus Structure and Assembly meeting, Steamboat Springs, CO. * **Invited Talk. Cancelled due to Covid-19 Pandemic**
- November 2020 Functional studies of IgG autoantibodies in IgA nephropathy. Barbora Knoppova, Alyssa Hansen, Stacy D. Hall, Zhi-Qiang Huang, Bruce A. Julian, Matthew B. Renfrow, Jan Novak, Todd J. Green, *Barbora Knoppova presenting*, American Society of Nephrology (ASN), ASN Kidney Week 2020, Denver, CO, **Remote due to Covid-19 Pandemic**
- December 2020 Structure and Function of Phosphoprotein from Vesicular Stomatitis Virus: A Polymerase Co-factor. Medical Microbiology and Immunology, College of Medicine and Life Sciences, University of Toledo, Toledo, OH, * **Invited Talk**
- February 2021 Structural Studies of Autoantibodies with Specificity for Aberrant Glycoproteins Department of Microbiology, University of Alabama at Birmingham, Birmingham, AL * **Invited Talk**
- March 2021 Virologists Speakers Panel. Impact of structural biology on Virus Research. Stuyvesant High School Speaker Series, Stuyvesant High School, New York City, NY, * **Invited Talk**
- March 2021 My Story, My Story Seminar Series, Graduate Resilience Outreach and Wellness (GROW) Program, University of Alabama at Birmingham, Birmingham, AL * **Invited Talk**

MEDIA COVERAGE:

- March 30, 2020 “UAB will test a COVID-19 vaccine candidate created by Altimmune Inc.”
<https://www.uab.edu/news/research/item/11203-uab-will-test-a-covid-19-vaccine-candidate-created-by-altimmune-inc>
- April 2, 2020 “How long does the novel coronavirus live on different surfaces?”
<https://www.uab.edu/news/youcanuse/item/11213-how-long-does-the-novel-coronavirus-live-on-different-surfaces>
- July 13, 2020 “Altimmune COVID-19 vaccine candidate tested at UAB shows positive preclinical results”
<https://www.uab.edu/news/research/item/11426-altimmune-covid-19-vaccine-candidate-tested-at-uab-shows-positive-preclinical-results>