



**CURRICULUM VITAE**  
**CHRISTOPHER LYNN KEPLEY, PhD, MBA,**  
**FAAAAI**

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***EDUCATION***

- M.B.A.** College of William and Mary, Williamsburg, VA, Business Administration, 2006
- Ph.D.** Medical College of Virginia, Richmond, VA, Microbiology and Immunology, 1995
- B.S.** James Madison University, Harrisonburg, VA, Biology, 1983

***ACADEMIC AND INDUSTRY POSITIONS HELD***

- 2010-present** Associate Professor (with tenure) and Founding Faculty, Joint School of Nanoscience and Nanotechnology (JSNN), Greensboro, NC.
- 2013-present** Adjunct Professor of Biology and Nanotechnology, Danville Community College, Danville, VA.
- 2010-present** Director of Graduate Studies, Department of Nanoscience, JSNN.
- 2011-2012** Interim Chair, Department of Nanoscience, JSNN.
- 2010-2014** Consultant, Luna Innovations Incorporated, Danville, VA.
- 2011-present** Adjunct Professor, North Carolina Agricultural and Technical University (NCAT) Nanoengineering Dept, Greensboro, N
- 2009** Sabbatical, University of California Los Angeles, Dept. of Clinical Immunology and Allergy. Laboratory of Dr. Andy Saxon.
- 2007-2010** Group Leader, Nanoimmunology, Luna Innovations Incorporated, Danville, VA.
- 2007** Sabbatical, Harvard Medical School, Division of Rheumatology, Immunology and Allergy, Boston, MA. Laboratory of Dr. David Lee.
- 2003-present** Adjunct Faculty Member, Department of Microbiology & Immunology and Department of Biology, VCU.
- 2002-2007** Assistant Professor, Division of Rheumatology, Allergy and Immunology, VCU.
- 1999-2002** Research Assistant Professor, Department of Pathology, University of New Mexico

(UNM).

- 1998-1999** Instructor, Department of Pathology, UNM.
- 1995-1998** Postdoc, Department of Pathology, UNM, Albuquerque, NM.
- 1992-1995** Teaching Assistant, Dept. of Microbiology & Immunology, VCU.
- 1987-1990** Laboratory Technician, Virginia Commonwealth University, VCU.

***PROFESSIONAL AWARDS, SPEAKER INVITATIONS, AND RECOGNITIONS***

List does not include simple peer-reviewed poster/abstract presentations (non-oral) at meetings which have averaged two/year since 1992.

- 2016** Invited Speaker, Western Carolina University, Rapid Prototyping Center, “The Blood-to-Serum (B2S) System for Point of Care Diagnostics”. March, Sylva NC.

Invited Speaker, Virginia Tech Carillion Research Institute, “Wandering in the sciences: from drug discovery, anti-aging cosmetics, to saving our oceans through new blue technology”, March, Roanoke, VA.

Invited Speaker, Virginia Commonwealth University, Department of Biology, “Wandering in the sciences: from drug discovery, anti-aging cosmetics, to saving our oceans through new blue technology”, March, Richmond, VA.

Invited Speaker, Second Annual Cone Health Research Forum: Nanoscience & Health. “Pharmaceutical applications of nanomaterials”, March, Greensboro, NC.

Invited reviewer, National Institutes of Health, National Institute of Environmental Health Sciences (NIEHS), Nanomaterials Health Implications Research (NHIR) Special Emphasis Panel: Comprehensive Evaluation of Interactions between Engineered Nanomaterials and Biological Systems (U01), April, Durham NC.

Invited Keynote Speaker, Second Palestinian International Conference on Material Science and Nanotechnology (PICNM2016), An-Najah National University, Nablus, Palestine, March 2016.

- 2015** Invited Speaker, Virginia Tech Cooperate Research Park, “Transferring academic discoveries into innovative products”, Blacksburg, VA, December 2015.

Invited Keynote Speaker, Danville Rotary Club. “Saving our oceans using a new “blue” technology. December 2015.

Session Chair (Medical applications of fullerenes) and Keynote Speaker, 2015 World Fullerene Conference. “Pharmaceutical applications of fullerene derivatives”. Hohhot China.

Invited Speaker, 2015 World Fullerene on the 30th anniversary of the discovery of fullerenes, Hohhot, China. Other speakers include Sir Harold Kroto, Professor Emeritus at Florida University, Nobel Prize in Chemistry, 1996 and Robert F. Curl, Professor Emeritus at Rice University, Nobel Prize in Chemistry, 1996.

Invited reviewer for grants submitted to Department of Defense, Defense Medical Research and Development Program (DMRDP), Investigator Initiated Research Award (IIRA) and Technology/Therapeutic Development Award (TTDA) for Rheumatic diseases.

Invited by the TV show “Shark Tank” to submit video for season 7 related to our new sustainable and ecologically friendly new product-Organobait.

News article describing new company being 30<sup>th</sup> member of Nanomanufacturing Consortium at Gateway.

Invited Speaker, Saint James Medical School, A new anti-oxidant for anti-aging applications. Anguilla, West Indies, April.

Invited Speaker, National Science Foundation SBIR Boot Camp, Icorp presentation on Gateway-associated Company, KBI. March.

News article describing the mentoring of community college student, Lee Robertson, and his involvement in patenting a new invention with our team.  
<http://www.dcc.vccs.edu/News/News%20Releases%20home.htm>

Invited Speaker, Scaling STEM: Strategies That Engage Minds, Research Triangle Park, NC. April.

Invited Speaker, Bringing STEM-related products to the marketplace. Institute for Advanced Learning, Michael Duncan, Danville, VA. February.

## **2014**

Invited to Editorial board for the Journal of Nanotechnology: Nanomedicine & Nanobiotechnology (NTMB).

Distinguished Speaker Invitation, Northern Virginia Community College, Pharmaceutical Applications of Fullerenes, Nanotechnology Conference, November, Manassas VA.

Nominated for Editorial Board Member, *J. Allergy and Clinical Immunology*. The most prestigious journal in the allergy and immunology field with an impact factor of >11.

Invited Keynote Speaker, “Pharmaceutical Applications of Fullerenes” NANOCON 2014: 3rd International Conference on Nanotechnology, Pune, India

**2013**

Invited Board of Directors Member, Mlinzi's Inc. NC. This company is involved in developing new vaccine strategies.

Invited Speaker, Nanomanufacturing 2013; Applications and Opportunities. "Manufacturing Challenges of a Start-up".

Invited Board of Directors Member, Sixal Inc. Santa Monica CA. This company is involved in developing new immunologically-based treatments for allergic mediated diseases.

Invited Speaker, "Nanomaterials for Heart Disease". American Heart Association, Basic Cardiovascular Sciences, Las Vegas, NV, July, 2013.

Invited Speaker, "Pharmaceutical application of fullerenes". RTI International, Durham, NC, April, 2013.

Invited Speaker, "Development Of Human Mast Cell-Targeting Fullerenes". 223rd ECS Meeting in Toronto, Canada, May, 2013.

Invited Speaker, "Functionalization of gadolinium metallofullerenes for detecting atherosclerotic plaque lesions by cardiovascular magnetic resonance", McAllister Heart Institute, Department of Medicine, University of North Carolina, Chapel Hill, NC, March, 2013.

National Institutes of Health (NIH) Allergy and Infectious Disease (NIAID) Scientific Review Program, Special Emphasis Panel [SEP ZAI1 RWM M (M1)]. This panel reviews proposals to NIAID for a Broad Agency Announcement (BAA) on clinical countermeasures to emerging and infectious diseases.

**2012**

NIH Review Panel; 2012 ZRG1 MOSS T12, Small Business: Dermatology, Rheumatology and Inflammation, November meeting; Seven applications reviewed.

Invited Keynote Speaker, "Pharmaceutical Applications of Fullerenes" NANOCON 2012: 2nd International Conference on Nanotechnology, Pune, India.

Invited Session Chair, "Nanomaterial Applications" NANOCON 2012: 2nd International Conference on Nanotechnology, Pune, India.

Invited speaker, late-breaking abstracts "Epoxyeicosatrienoic Acids are Involved in The C<sub>70</sub> Fullerene Derivative Induced Control of Allergic Asthma". American Academy of Allergy, Asthma, and Immunology (AAAAI), Orlando, FL.

**2011**

VCU Tech Transfer, Recognition Award for Creativity and Innovation, Presented at Sixth Annual Reception, "Invented at VCU", Richmond, VA.

Invited Speaker, RTI International, “Diagnostic and Therapeutic Potential of Fullerenes”, Durham, NC.

Invited Speaker, McGill University, Department of Bioengineering, “Diagnostic and Therapeutic Potential of Fullerenes”, Montreal, Canada.

Invited Speaker, American Association of Immunologists (AAI) Annual Meeting, “Fullerene C<sub>70</sub> derivatives dampen airway inflammation and bronchoconstriction associated with asthma pathogenesis”, San Francisco, CA.

Invited Board of Directors Member, Unipharmamedical, Los Alamitos, CA.

Faculty Travel Award and speaker invitation American Association of Immunologists (AAI), San Francisco, CA.

Invited Speaker, Electrochemical Society meeting, “Diagnostic and Therapeutic Potential of Fullerenes” Montreal, Canada.

Invited Speaker and Panelist, Commercialization of Micro-Nano Systems, “Diagnostic and Therapeutic Potential of Fullerenes”, Greensboro, NC.

NIH Review Panel; 2011/05 ZRG1 MOSS-D (12) B, Small Business: Dermatology, Rheumatology and Inflammation.

## **2010**

Winner of the 2010 Phadia Allergy Research Forum Award; the most prestigious international award in allergy research. The \$50,000 award was announced at the 2010 European Academy of Allergy & Clinical Immunology (EAACI) meeting in London. [www.diagnostics.com/dia\\_templates/Page\\_\\_\\_57723.aspx](http://www.diagnostics.com/dia_templates/Page___57723.aspx).  
[www.eaaci.net/resources/grants-a-awards](http://www.eaaci.net/resources/grants-a-awards); Award presentation in Uppsala Sweden.

Invited Speaker EAACI Plenary Session (London); “Investigating ways to inhibit Fc ε RI” in conjunction with Phadia-sponsored plenary session.

Invited Speaker, Olaus Rudbeck Day (Uppsala University, Sweden). “Investigating ways to inhibit Fc ε RI”, Rudbeck was one of the pioneers in the study of lymphatic vessels and he was the first to discover the lymphatic system.

Phadia Guest Speaker, “Nanomedicine for allergy and asthma”, Phadia is the manufacturer of the ImmunoCap system for immune-related disorders, Uppsala, Sweden.

Editorial Board Member (still active member), Journal of Nanomedicine & Nanotechnology.

Review Panels; NIH Bioengineering Sciences & Technologies Integrated Review Group: NANO and ZRG (special emphasis panel on nanotechnology), American

Recovery Act Limited Competition (special emphasis panel). Congressional Directed Medical Research Panel (CDMRP) for Multiple Sclerosis. Jeffress Memorial Trust, Richmond, VA.

Invited Speaker and Moderator, “Nanomedicine and The Allergist”, AAAAI, New Orleans.

**2009** Invited Plenary Speaker, EAACI, Warsaw, Poland; “Nanomedicine in Allergy”.

Invited speaker, AAAAI, Washington, DC; “Nanomedicine for allergy and asthma”,

Grand Rounds, Duke University Adult Bone Marrow Transplant Program, Division of Cellular Therapy; “Fullerenes as Radioprotectants”.

Grand Rounds, Thomas Jefferson University, Philadelphia PA, Department of Dermatology; “Biology of Fullerenes”.

**2008** Invited Speaker, Luna Innovations Incorporated-Board of Directors meeting (First PI to be invited), and “Biology of fullerenes”.

Invited Speaker, UVA Chapter of the American Institute of Chemical Engineers, Charlottesville, VA, “Biology of fullerenes”.

Co-Chair; NanoHealth Enterprise Biological Interactions Science Project Group.

**2007** Stem cell advisory committee, VCU Office of Research.

Grant Review Referee, Medical Research Council, London, UK.

AD Williams Grant Review Committee, VCU/MCV.

Indoor Biotechnology Inc. travel grant to EAACI, Gothenburg, Sweden.

Media coverage of my research:

<http://www.sciencenews.org>

<http://www.roanoke.com/business/wb/wb/xp-124130>

[http://www.upi.com/NewsTrack/Science/2007/06/20/allergyfighting\\_buckyballs\\_created/2485/](http://www.upi.com/NewsTrack/Science/2007/06/20/allergyfighting_buckyballs_created/2485/)

<http://www.nature.com/news/2007/070702/full/070702-16.html>

<http://www.vcu.edu/insidevcu/0801buckyballs/index.html>

[www.roanoke.com/roatimes/news/story168705.html](http://www.roanoke.com/roatimes/news/story168705.html),

[www.vcu.edu/uns/news/vcuvview/archives/2004/may/kepley.html](http://www.vcu.edu/uns/news/vcuvview/archives/2004/may/kepley.html).

Featured Speaker, JMU Homecoming, “Finding ways to turn of mast cells and basophils”, Department of Biology.

Featured Speaker Colloquium in Physics, “Finding ways to turn of mast cells and basophils”, Department of Physics, VCU.

Invited Speaker Food Allergy and Anaphylaxis Network (FAAN) Board of Directors Meeting; Harvard Medical School, Cambridge MA.

Invited Speaker, 11<sup>th</sup> International Paul-Ehrlich-Seminar, “Finding ways to turn of mast cells and basophils”, Bad Homburg, Germany

Invited Speaker, Swineford Memorial Conference, “Finding ways to turn of mast cells and basophils” UVA, Charlottesville, VA

Invited Speaker, British Society of Allergy and Clinical Immunology, “Finding ways to turn of mast cells and basophils” Leicester, UK.

**2006** Research Recognition Award, VCU School of Medicine.

Research Advisory Board, Food Allergy and Anaphylaxis Network, \*Still active member

**2004** Recipient (out of approximately 150 applicants; first American recipient) of the Henning Løwenstein International Research Award for excellence in allergy research. Monetary award and travel grant for the 5<sup>th</sup> Symposium on Specific Allergy, London, UK.

Editorial Board Review Panel Ad hoc Journal of Allergy and Clinical Immunology (>60 completed reviews to date). Other journals include International Archives of Allergy and Immunology, Journal of Immunology, Allergy, Clinical Immunology, Journal of Leukocyte Biology, Blood, Nanomedicine, Clinical and Experimental Allergy, Toxicology and Applied Pharmacology. \*Still active reviewer for each journal averaging 2-3 articles/month.

VCU Department of Internal Medicine Faculty Award for “Exceeding Expectations”.

**2003** Speaker and Session Moderator, “Negative Regulation of FcεRI-Mediated Signal Transduction” and “ITIM/ITAM Receptors”, AAAAI Annual Meetings.

American Association of Immunologists Junior Faculty Travel Award for 2003.

**2002** University of New Mexico (UNM) “Faculty Excellence Award”.

**2001** University of New Mexico (UNM) “Faculty Excellence Award”.

Awarded the first AAAAI Award for Outstanding Research Published in the *Journal of Allergy and Clinical Immunology* by a Fellow-in-Training. “Negative regulation of Fc ε RI signaling by Fc γ RII costimulation in human blood basophils”.



Scholarship Award for The Fourth International Workshop on Signal Transduction in the Activation and Development of Mast Cells and Basophils.

- 2000** American Association of Immunologists Pfizer-Showell Award, AAAAI Travel Grants.
- 1999** Pharmacia International Allergy Research Foundation Fellowship.
- 1998** Pharmacia International Allergy Research Foundation Fellowship.
- 1983-1987** Scholarship football player, James Madison University, Harrisonburg, VA. Only freshman player to graduate in 4 years.

### *MENTORING/TEACHING*

#### *Current trainees-graduate*

1. Omar Nicolas – PhD Thesis Advisor, 2 years
2. Osama Zahid-lab rotation
3. Anthony Dellinger-PhD Thesis Advisor.
  - ✓ Awarded the Jerry McGuire Student Entrepreneur of the Year at UNCG 2015 for his exceptional entrepreneurship. He was selected by a panel of judges appointed by the Director of the NC Entrepreneurship Center including UNCG faculty and staff, alumni, business owners, and/or others knowledgeable about entrepreneurship.  
<http://research.uncg.edu/spotlight/grad-student-reels-in-1k-entrepreneurship-award-with-product-to-capture-crustaceans/>
  - ✓ Awarded the UNCG Inclusiveness Award. Pharmaceutical applications of fullerene derivatives, 2011.
  - ✓ Awarded the People’s Choice Award for the 2013 Capital Connects for his five minute “elevator” pitch for Greensboro and Triad VC conference, 11/2013.
  - ✓ Selected finalist UNCG 3 “Minute to Win it” competition for doctoral students.
  - ✓ Selected speaker at 2010 American Academy of Immunologists meeting.
4. Kalyan Paila- lab rotation and advisor for six months.
5. Sarah Kennedy-Norton- PhD Thesis Advisor, VCU Department of Microbiology and Immunology, 2013. She won many awards including a grant from the American Heart Association and several travel grants from the American Association of Immunologists. She is now working in Industry.
6. Shahnaz Quadri- Supervised in lab, 2010-2012.
7. Richard Vestal- JSNN Thesis Committee.
8. Ashley Turner- PhD Thesis Advisor.
  - ✓ First African American student to graduate from JSNN
  - ✓ Awarded the UNCG Inclusiveness Award. Dermatological applications of fullerene derivatives, 2013.
  - ✓ Selected as a discussion leader for a session at the Oxygen Radicals Gordon Research Seminar, to be held February 8-9, 2014 in Ventura, California, USA



9. Rabeah Rawashdeh- JSNN Thesis Committee.
10. Katie Hlavinka-UNCG Thesis Committee. Katie graduated and was accepted into the PhD program at NC State University.
11. Alan Covell- PhD Thesis Committee.
12. Bryce Duncan-PhD Thesis Advisor. Nanomaterial inhibition of HIV.
13. Krissie Hunt-Masters Thesis Advisor.
14. Jesse Plotkin, PhD Thesis Advisor.
  - ✓ Awarded Quantifying Exposure to Engineered Nanomaterials from Manufactured Products (QEEN) Conference Travel Award; Addressing Environmental, Health, and Safety Implications,” workshop. July, 2015, The workshop is sponsored by the Consumer Product Safety Commission (CPSC), in cooperation with the National Nanotechnology Initiative (NNI). For poster, “Development of a sensitive assay to detect and characterize the effects of nanomaterials on aquatic ecosystems using an ex vivo preparation of crustacean olfactory receptor neurons”.
15. Michael Elias, PhD Thesis Advisor. The effects of alcohol on human mast cells.
16. Getachew Tedla, PhD Thesis Advisor. Developing theranostics for glioblastoma.
17. Steven Vance, PhD Thesis Committee.
18. Ross Waitt Warren, PhD Thesis Advisor. Developing point of care medical devices.

Current trainees-undergraduate

1. Greg Walker-Forsyth Technical Community College (FTCC). Spent six months (2012) in laboratory learning tissue culture, Western blotting, and enzyme assays for Internship “Examining the effects of fullerenes as anti-inflammatories”.
2. John Cruickshank-University of North Carolina, Spent six months (2012 and 2013) in laboratory learning tissue culture, Western blotting, and enzyme assays for Internship “Examining the effects of fullerenes as anti-inflammatories”.
3. Lisa Brothers- FTCC. Spent six months (2012) in laboratory learning tissue culture, anti-oxidant assays, and enzyme assays for Internship “Examining the effects of fullerene anti-oxidants for cosmetics”.
4. Jonah Nikouyeh-UNCG. Semiconductor Research Corporation, Undergraduate Research Opportunity, Summer Internship Program Spent ten weeks (2013). Determining structure-activity relationships using novel endofullerenes for magnetic resonance imaging. Jonah was invited to attend TECHCON 2013 to present this project. The conference will be held at the Renaissance Hotel in Austin, Texas on September 9-11.
5. Lee Robertson. Danville Community College. “Examining the effects of fullerenes as anti-inflammatories”.
6. Roger English. FTCC. Spent six months (2014) in laboratory learning tissue culture, Western blotting, and enzyme assays for Internship.
7. Bianca Whitehead, NCA&T (2014). Examining new compounds that extend cut flower lifespan.

8. Sara Dunlap-Elon. Semiconductor Research Corporation, Undergraduate Research Opportunity, Summer Internship Program Spent ten weeks (2015).

Current trainees-high school

1. Alex Hasler-spent six months (2012) in laboratory learning tissue culture, Western blotting, and enzyme assays for Gilford High School senior project “Examining the effects of various herbs on cancer cell growth”.

Past trainees-Post doc

1. Ashraf Sawafta, PhD
2. Ghassan Aboud, PhD
3. Jens Poushet, PhD
4. Sarala Pamujula

Past trainees-graduate

1. Sarah Norton-Masters Thesis Committee, VCU Department of Microbiology and Immunology, 2001-2004
2. Sarah Norton-PhD Thesis Advisor, VCU Department of Microbiology and Immunology, 2007-present
3. Mohit Kashyap-PhD Committee Member, VCU Department of Microbiology and Immunology, 2002-2007
4. Hey Jin Chang-PhD Committee Member, VCU Department of Microbiology and Immunology, 2002-2007
5. Danny Bailey-PhD Committee Member, VCU Department of Microbiology and Immunology, 2002-2007
6. Tim Caven- PhD Committee Member, VCU Department of Microbiology and Immunology, 2004-2009
7. Joel Mathews-PhD Committee Member, VCU Department of Microbiology and Immunology, 2007-2011
8. Patty Elkins-JSNN performed 6 week lab rotation in the nanobiology lab
9. Kyle Nowlin- JSNN performed 6 week lab rotation in the nanobiology lab
10. Joseph Estevez-JSNN performed 6 week lab rotation in the nanobiology lab
11. Adam Boseman- JSNN performed 6 week lab rotation in the nanobiology lab
12. Lakmina Premadasa- JSNN performed 6 week lab rotation in the nanobiology lab
13. Olusola Olaniyi- JSNN performed 6 week lab rotation in the nanobiology lab
14. Cody McGrath, MS in Nanoscience. Now a lab technician at UNC Chapel Hill

Past trainees-undergraduate

The following undergraduates have performed six week rotations through Dr. Kepley's laboratories.

1. Steven Crawford (FTCC)
2. Aaron Wolfe (GTCC)
3. Approximately 10 UNCG undergraduate students learned tissue culture and Western blotting in my lab (2011).
4. Deidre Clack (2012).

Miscellaneous mentoring

**Seven of seven (100%)** technicians/interns in my laboratory who applied to medical/graduate school were accepted;

1. Chris Hill-University of Tennessee (MD Program)
2. Anthony Dellinger-Joint School of Nanoscience and Nanoengineering (PhD Program)
3. Henry Bateman-University of South Carolina (MD/PhD Program)
4. Matt Morales- Rutgers (MD Program)
5. Sharvin Taghavi- Tufts University (MD Program)
6. Giles Thompson-VCU Pharmacy School
7. Lee Oldham-UVA Medical School

Mentored four National Science Foundation-sponsored, Science, Technology, Engineering, and Math (STEM) curriculum for high school teachers while at Luna Innovations.

Courses taught (**bold** are courses developed and implemented by me).

**University of North Carolina Greensboro**

- **NAN 721** Introduction to Stem Cell Biology and Ethics, Course Founder and Director. 2015
- **NAN 711** Immunology, Course Founder and Director. 2015
- ENT 300 Ideas to Opportunities: Feasibility Analysis guest lecturer. 2013
- **NAN 613** Facilitated, developed, and submitted NAN 613; Directed Studies in Nanoscience
- **BIO 519** Introduction to Nanotechnology, for undergraduates and graduates at UNCG. Course Founder and Director. Course approved by C&T Committee. Approved by UCC and GSC Committees. To be offered in 2015.
- NAN 720 Professional Development guest lecturer, gave-Industry focused lecture.
- **NAN 770** Scientific Integrity, Course Founder and Director, 2012-present.
- NAN 602 Guest Lecturer, Nanobiology, 2010-present.
- **NAN 611** Course Director, Nanobiology Laboratory Rotation, 2010-present, student rating of class 100% over past two years.
- **NAN 750** Course Founder and Director, Nanomedicine, 2010-present, student rating of class 100% over past two years.
- CHEM 736 Guest Lecturer, Bionanoscience (NC A&T). 2010-present.
  - ✓ Prepared up-to-date lectures related to Nanomedicine
  - ✓ Created, proctored, and graded tests on course material
- **NAN 799** Dissertation Research. 2010-present, student rating of class 100%.

- **Nano-biology (online).** Course Director- implementing new online degree program in Nanotechnology with Dr. Dennis LaJeunesse, 2011-present, first course offered Spring 2013. Along with Adam Hall facilitated the incorporation of course content from various faculty members into online class format with representatives from UNCG Online Department. A link to first course can be found at: <http://web.uncg.edu/dcl/courses/nan601/lecture4/panel1.php>
- **Nanomedicine (online).**
- Advanced Immunology (VCU/MCV). 2002-2007. This journal-based course for graduate students was intended to keep students abreast of the latest findings in immunological research.
- Various Immunology-focused lectures for Medical School students as needed, VCU and UNM. 2002-2007. Taught block sessions in Hypersensitivity, Diseases of the Immune System, Signal Transduction Pathways in Immune Cells, and Basic Immunology.
- Trained, participated, and led Problem-Based Learning (PBL) curriculum. 2000-2002. This was a case-driven mechanism of teaching in which students are encouraged to come up with learning opportunities after reviewing an assigned real-life patient case.
- Chinese Institute of Medicine, Albuquerque, NM. “Western Medicine”, 1997-2000.
- Oversaw research project for UNCG undergraduate students (approximately 10) examining the ability of fullerenes to increase age span in mice.

#### **Danville Community College (summer)**

- Biology 101. Utilizing Blackboard, McGraw-Hill Connect Library, and EZ Test online.
- **IND 145** Introduction to Metrology.
- **NAN 205** Measurement and Characterization of Nanomaterials.
- **NAN 208** Applications of Nanotechnology.

#### *Student Feedback*

- At UNCG student feedback averages close to 100% approval according to questionnaires.
- Quotes from students from class climate forms/surveys include:
  - ✓ “I learned more in this class (Scientific Integrity) than I have in any other...”
  - ✓ “Really enjoyed the class (Nanomedicine). Dr. Kopley made sure we learned immunology and taught us how to write a grant. I would recommend this course for everyone to take.”
  - ✓ “Insightful, intelligent, and motivational advisor (Nanobiology lab rotation)”.

#### ***UNIVERSITY SERVICE***

- Research Committee UNCG 2015-2016.
  - ✓ Reviewed >10 internal grants from UNCG faculty
- Seminar Coordinator for JSNN 2015-2016.

- ✓ Email from student: “Dear Dr. Kepley, my name is Qassim Dirar, a nanoengineering student. I just wanted to let you know that this is the best series of seminars i've ever had at JSNN !”
- Axnano, recruited and signed to JSNN manufacturing consortium 2014.
- Luna Innovations, recruited and signed to JSNN manufacturing consortium 2014.
- Engineered Biopharmaceuticals, recruited and signed to JSNN manufacturing consortium 2013.
- Syngenta. Worked on laboratory experiments for new product, 2013.
- Xanofi Inc. recruited and signed to JSNN manufacturing consortium, 2013. Initiated project on testing their cell scaffolding material in conjunction with Jesse Plotkin.
- December 2010-present. Nanobiosciences Laboratory Manager
  - ✓ Oversee all students, personnel, and faculty using the nanobioscience laboratory.
  - ✓ In charge of ensuring all personnel are properly trained in all aspects of biological and chemical handling.
- Immunohistochemistry training. 2010-present. Trained NC A&T faculty on sample preparation, slide embedding and cutting, histochemistry, and immunohistochemistry techniques.
- Reviewed application for a new graduate program in Nano Engineering/Science coming to General Administration (GA) from NCSU. This was at the request of the UNC Graduate Deans Council at GA.
- Elected to Graduate Faculty UNCG, 2012.
- Attended Graduate Faculty meetings and presented updates to Nanoscience faculty, two per year since 2011.
- 2011-present. UNCG Graduate Studies Committee Member. >90% meeting attendance (2 meetings/month).
  - ✓ Served as liaison between graduate school and JSNN on issues related to UNCG's curriculum, policies and procedures, etc.
  - ✓ Aided in developing and adapting UNCG Graduate School Guidelines, Best Practices in Advising and Mentoring Graduate Students.
- 2010-present. UNCG Graduate Studies Committee Member, Subcommittee on Curriculum. >90% meeting attendance (2 meeting/month).
  - ✓ Reviewed all new course proposals, course minor changes, etc. for SACs-compliance.
  - ✓ Served as a conduit between UNCG faculty submitting new graduate courses and the Graduate Studies Curriculum Committee to facilitate proper Student Learning Outcomes, course content, and correct syllabus structure.
  - ✓ Average 15-20 new proposal reviews per month.
  - ✓ Aided nanoscience faculty in submissions
- January 2011-present. Director of Graduate Studies (non-compensated), JSNN, Dept. of Nanoscience. 100% meeting attendance (1 meeting/month).
  - ✓ Developed student learning objectives, outcomes, and measures for Nanoscience PhD and Masters programs: information needed for SLEC audit report, 2012.
  - ✓ Led efforts to change and update the UNCG Graduate Student Bulletin for JSNN.
  - ✓ Communicated UNCG Graduate School meeting information to Nanoscience administration and faculty.

- ✓ Facilitated the development of the Graduate Student Handbook for JSNN Nanoscience students. Specifically developed the policy for JSNN PhD students in responsible conduct of research (RCR).
  - ✓ Relayed new course offerings/changes of JSNN to UNCG graduate school.
- January 2010-2014. Admissions Committee Head, Joint School of Nanoscience and Nanoengineering, Dept. of Nanoscience.
  - ✓ Personally arranged face-to-face and skype-based interviews.
  - ✓ Facilitated the distribution of application packets to faculty and headed the voting on applicant acceptance.
  - ✓ Coordinated the acceptance/rejection of applicants in Apply Yourself
- Institutional Animal Care and Use Committee (IACUC) Member UNCG, January 2011-2013. 100% meeting attendance.
  - ✓ Average one IACUC application review per month.
  - ✓ Includes yearly IACUC retreat for training and keeping up-to date on standard animal care practices.
  - ✓ Participate in yearly OLAW-required facilities inspections
- JSNN Representative for UNCG Office of Research Compliance.
- Attended several Associate Dean meetings at UNCG / Academic Programs Committee. 100% meeting attendance.
  - ✓ Served as liaison between graduate school and JSNN on issues related to UNCG's Substantive Change Compliance Policy.
  - ✓ Ensured JSNN remained compliant with Commission on Colleges of the Southern Association of Colleges and Schools (COC SACS).
  - ✓ Facilitated Classification of Instructional Programs (CIP) compliance for COC SACS
- Met with FreeMind Group (FMG) which was contracted to conduct an assessment of UNCG's research objectives, assist in determining available research projects and grants as well as other funding opportunities in the area of life sciences. May 2012.
- Industry outreach presentations given at JSNN to the following:
  - ✓ Ecolabs; 2013
  - ✓ Keranetics; 2013
  - ✓ Quartek; January 2011.
  - ✓ Axnano, October, 2011.
  - ✓ TransTeck Pharma, March 2012.
  - ✓ Engineered Biopharmaceuticals, April 2012. Resulted in two SBIR submissions.
  - ✓ Ecolab, May, 2012.
  - ✓ Tunistus, June, 2012. Resulted in one SBIR Phase II submission.

### *COMMUNITY OUTREACH & SERVICE*

- North Carolina Science Festival's Invite-a-Scientist program. Gave presentation on Nanotechnology to students at Walkertown Middle School, April 2015.
- Galileo High School, Danville VA. "Pharmaceutical applications of fullerene derivatives; special emphasis on signal transduction pathways", October 2013.
- Developing community outreach program with Dr. Eddie Paul, MD (Founder of Greensboro Orthopedic Clinic and Son-in Law of "Mr. Superglue" Harry Coover) and JSNN graduate students. This outreach program is called TINY (Technological Innovations in



- NanotechnologyY). This will be a 45-50 minute interactive talk given to community schools in Greensboro. Dr. Paul will speak about superglue invention, Dr. Kepley will give blood-letting lecture with nanomaterial slant, and Ashley Turner (and other graduate students) will talk about nanotechnology and her project. The goal is to increase JSNN awareness in the community.
- Invited to Forsyth Tech Nanotech Advisory Board by Kevin Conley, April 2013
  - Invited and hosted several outside speakers for Friday Seminar 2015-2016 including notable:
    - ✓ Dr. Christie Sayes. Program Manager - Nanotoxicology & Nanopharmacology, Center for Aerosol & Nanomaterials Engineering, RTI International, Christie is now an Adjunct Professor at JSNN.
    - ✓ Dr. Barry Flynn-gave talk plant sustainability leading to several potential collaborations with JSNN personnel.
    - ✓ Dr. Zhiguo Zhou. Director Luna Nanoworks
    - ✓ Dr. Eddie Paul-Founder and Director of Greensboro Orthopedic Clinic. Presented talk/tribute to his father-in-law, Dr. Coover, who was the inventor of super glue and a Greensboro native.
  - Demonstrated various laboratory techniques for a Northwest High School group of students (Greensboro). March, 2013.
  - Gave demonstrations to students for the NC Science Festival, 2012. Resulted in video tape presentation for student who presented results in Raleigh.
  - Presented seminar “Developing fullerenes for pharmaceutical applications” to the North Carolina Association for Biomedical Research Nanobiotechnology teacher workshop. This is a Guilford County continuing education workshop for high school teachers, Greensboro, NC, November 2, 2012.
  - Presented seminar “Developing fullerenes for pharmaceutical applications” at “Big Ideas of Nanoscience & Nanotechnology” Fellows Institute. MathScience Innovation Center, Richmond, VA, August 6, 2012.
  - Started new company at Gateway called Kepley BioSystems Inc. The company will employ JSNN students and provide solutions in the healthcare and personal care markets.
  - Woman’s Professional Forum Foundation of Greensboro. Met with members on how to increase young girls involvement in science. Brainstormed ideas to include participation of girls at JSNN through internships, lab rotations, etc. August, 2012.
    - ✓ Served as Committee Chair on Internships tasked to determine the logistics of high school girls performing internships at JSNN
    - ✓ Developed application for student internships at JSNN
    - ✓ Participated in April event through demonstrations of nanomedicines potential for treating disease in humans. One of the most successful outreach programs at JSNN with >300 participants.
  - NanoDays, Raleigh NC, 2012.
  - Invited Speaker. JSNN Board of Directors Meeting, July, 2011.
  - Two presentations given to high school teachers and students visiting JSNN, June 2011.
  - Invited Speaker: Continuing Education. An Explanation of Nanotechnology: Incorporating Emergent Technology in the 21st Century Classroom. Nanotechnology, Medicine, and Health.
  - Continual NanoDays presentations representing Luna (2007-2010) and JSNN 2011 and 2012 Danville Science Museum.
    - ✓ Performed various hands-on demonstrations relevant to nanotechnology and nanomedicine.



- Science Museum of Virginia; “Nanomedicine” given in conjunction with “Nano-days”.
- Various seminars (approximately 2/month) given for JSNN.
- Various seminars (approximately 2/month) to community organizations (high school teachers, outreach programs, etc).

### *INVENTION DISCLOSURES-UNCG*

2013            Autologous method for wound healing  
 2012            Novel Paradigm Changing Finger-Stick Approach Point of Care Analytic Reliability  
 2011            Compositions and methods for treating mast cell mediated diseases

Compositions and methods for treating asthma

Measuring basophil syk levels as a marker for allergen immunotherapy

A novel way to increase the efficacy of steroids in steroid resistant asthma

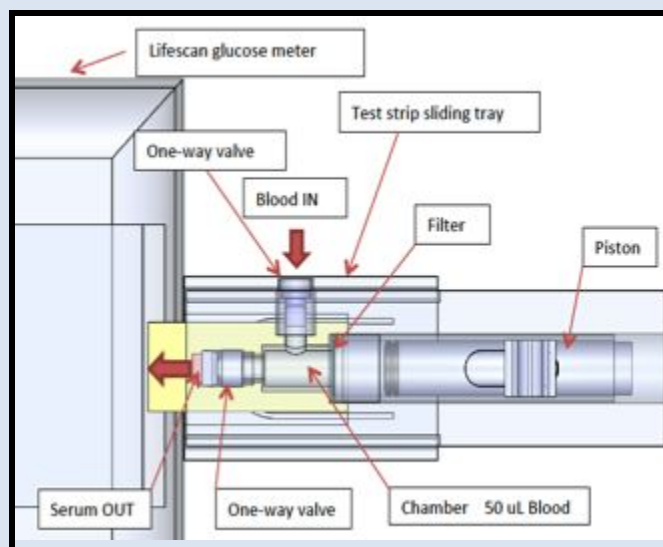
### *PATENTS-Granted*

- 1 AU 20110251158 Fullerene therapies for inflammation and inhibition of build-up of arterial plaque. Inventors, Kepley, Lenk, Macfarland, Wilson, Zhou. 2009.
2. CA 2,717,495 Fullerene Therapies for Inflammation Inventors, Kepley, Lenk, Macfarland, Wilson, Zhou. 2009.
3. EP 9718906.2 Fullerene Therapies for Inflammation Inventors, Kepley, Lenk, Macfarland, Wilson, Zhou. 2009.
4. AU 2009223843 Method for inhibiting the build-up of arterial plaque by administering fullerenes. Inventors, Kepley, Lenk, Macfarland, Wilson, Zhou. 2009.
5. CA 2,717,497 Method for Inhibiting the Build-Up of Arterial Plaque by Administering Fullerenes. Inventors, Kepley, Lenk, Macfarland, Wilson, Zhou. 2009
6. US 20110028522 Fullerene Therapies for Inflammation Inventors, Kepley, Lenk, Macfarland, Wilson, Zhou. 2011.
8. USA 12/921,083 Method for Inhibiting the Build-Up of Arterial Plaque by Administering Fullerenes. Inventors, Kepley, Lenk, Macfarland, Wilson, Zhou. 2009
7. USA 12/884,076 Fullerene Therapies for Inflammation and Inhibition of Build-up of Arterial Plaque. Inventors, Kepley, Lenk, Macfarland, Wilson, Zhou. 2011
8. 20110021630 Method for treating wounds by administering fullerenes. Inventors, Kepley, Lenk, Macfarland, Wilson, Zhou. 2009
9. 20110009486 method for treating pruritus by administering fullerenes. Inventors, Kepley, Lenk, Macfarland, Wilson, Zhou. 2011
10. 20110003773 using fullerenes to enhance and stimulate hair growth. Inventors, Kepley, Lenk, Macfarland, Wilson, Zhou. 2011
11. 7,947,262 “Use of fullerenes for the treatment of mast cell and basophil-mediated disease”. Inventor, Kepley. 2011.

### *PATENTS-Pending*

1. “A Nanotechnology-Based Platform for Component Resolved Food Allergy Diagnosis”. Filed through my company KBI 10/2014.
2. “Synthetic baiting device for crustaceans through slow release of attractants”. Filed through my company KBI 8/2014. The Organobait (see picture) is the first non-fish derived crustacean bait that is ocean sustainable, cost effective for fishermen, and effective at catching lobster and crab.
3. “Method and device for producing serum from whole blood for point-of-care diagnostics using carbon nanomaterials”. Filed through my company KBI 11/2013. A new device that converts whole blood to serum at the bedside for improved diagnostics. The B2S System (Blood-to-Serum; see picture) is intended to improve upon patient diagnostic tests.

Prototype of Blood to Serum (B2S) system medical device.



### *PRODUCTS DISCOVERED, DEVELOPED, and MARKETED*

A human basophil-specific, monoclonal antibody (**2D7**; see Kepley et al, 1995) conceived, created, and cloned as graduate student at MCV in collaboration with Dr. Larry Schwartz. This technology is currently licensed through the VCU Technology Transfer Office and is being sold through commercial retailer, Biologend (biologend.com).

Negotiated collaborative agreement and payments of potential hair growth compounds with Proctor and Gamble while at Luna Innovations (2009-2010). The discovery of these compounds was made in my laboratories at VCU and the technology transferred to Luna. P&G tested efficacy but ultimately decided not to pursue these compounds.

### *PRODUCTS BEING DEVELOPED*

A potential new treatment for allergic diseases (**GE2** and **GFD**; see Zhu/Kepley 2002) in collaboration with Dr. Andy Saxon and Nolan Sigal at Tunitas Therapeutics. Molecules are entering Phase I clinical trials.

A new anti-aging molecule. We have performed clinical trials on a new anti-aging molecule through my company, KBI. The new anti-aging cream was wildly efficacious (see picture) and a repeat clinical trial is under way.



***PEER REVIEWED PUBLICATIONS (80 to date)***

Woodfolk JA, Glesner J, Wright PW, **Kepley CL**, Li M, Himly M, Muehling LM, Gustchina A, Wlodawer A, Chapman MD, Pomés A. Antigenic determinants of the bilobal cockroach allergen Bla g 2. J Biol Chem. 2015 Dec 7.

Dellinger AL, Cunin P, Lee D, Kung AL, Brooks DB, Zhou Z, Nigrovic PA, **Kepley CL**. Inhibition of inflammatory arthritis using fullerene nanomaterials. PLoS One. 2015 Apr 16;10(4).

Effat Zeidan, **Christopher L. Kepley**, Christie Sayes, and Marinella G. Sandros. Surface plasmon resonance: a label-free tool for cellular analysis. Nanomedicine, 2015;10(11):1833-46.

Dellinger, A and **Christopher Kepley**. Study examining fullerene toxicity raises questions as to the purity of the nanomaterials and erroneous experimental conclusions. Toxicological Sciences, 2014 Oct;141(2):326-7.

Rabeah Rawashdeh, Alice Haddy, **Christopher Kepley** and Ethan W. Taylor. The fullerene paradox: biological antioxidants with low inherent reducing ability. In preparation.

Jun-Xia Wang, Sarah Ameri, Nadia Fishgal, Daniel Dwyer, Anthony Dellinger, **Christopher L. Kepley**, Michael F. Gurish, and Peter A. Nigrovic. The IL-33/ST2 axis supports mast cell survival via BCLXL. Proc Natl Acad Sci. 2014 Jul 15;111(28):10281-6.

Anthony Dellinger, Peter Nigrovic, Bryce Duncan, Ashley Turner, David Lee, Andrew Kung, Zhiguo Zhou, **Christopher L. Kepley**. Inhibition of Inflammatory Arthritis using Fullerene Nanomaterials. PLOS One, Apr 16;10(4), 2016.

Anthony Dellinger, Zhiguo Zhou, **Christopher L. Kepley**. A new steroid-mimicking nanomaterial that mediates inhibition of human lung mast cells responses. *Nanomedicine*. 2014 Aug;10(6):1185-93.

Anthony Dellinger, D. Bradford Brooks, Beverly Plunkett, Becky Vonakis, Marinella Sandros, Zhiguo Zhou, and **Chris Kepley**. Effects of Novel Nanomaterials on Allergic Mediator Release from Human Mast Cells and Basophils through Non-IgE Mediated Pathways. *J Nanomed Nanotech*. Mar 2013; 3:153.

Anthony Dellinger, Zhiguo Zhou, James Connor, A.B. Madhankumar, Sarala Pamujula, Christie M. Sayes, and **Christopher L. Kepley**. Application of fullerenes in nanomedicine: an update. *Nanomedicine*, 2013 Jul;8(7):1191-208.

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Anthony Dellinger, John Olson, Zhiguo Zhou, Kerry Link, Marinella Sandros, and **Kepley CL**. Detection of atherosclerotic plaque by magnetic resonance imaging using biomarker-targeting contrast agents. *J Cardiovasc Magn Reson*. 2013 Jan 16;15:7.

**\*Article achieved “highly accessed” status relative to age (>1000 downloads within 3 months):**  
**<http://www.biomedcentral.com/about/mostviewed>**

Sarah K. Norton, Dayanjan S. Wijesinghe, Anthony Dellinger, Jamie Sturgill, Zhiguo Zhou, Suzanne Barbour, Charles Chalfant, Daniel H. Conrad, **Kepley CL**. Epoxyeicosatrienoic Acids Are Involved in the C<sub>70</sub> Fullerene Derivative Induced Control of Allergic Asthma. *J. Allergy Clin. Immunol*. 2012 Sep;130(3):761-769.

Zhao W, Gomez G, Macey M, **Kepley CL**, Schwartz LB. In Vitro Desensitization of Human Skin Mast Cells. *J Clin Immunol* 2012 Feb;32(1):150-60.

Mathews JA, Ford J, Norton S, Kang D, Dellinger A, Gibb DR, **Kepley CL** et al. A potential new target for asthma therapy: a disintegrin and metalloprotease 10 (ADAM10) involvement in murine experimental asthma. *Allergy* 2011; 66:1193-200.

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Ehrich M, Tassell RV, Li Y, Zhou Z, **Kepley CL**. Fullerene antioxidants decrease organophosphate-induced acetylcholinesterase inhibition in vitro. *Toxicol. In Vitro* 2010; 25(1):301-7.

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Saxon A, **Kepley CL**, Zhang K. "Accentuate the negative, eliminate the positive": engineering allergy therapeutics to block allergic reactivity through negative signaling. *J Allergy Clin Immunol* 2008; 121:320-5.

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### *Invited*

Janet M. Oliver, **Kepley CL**, Enrique Ortega and Bridget S. Wilson. Immunologically-Mediated Signaling in Basophils and Mast Cells: Finding Therapeutic Targets for Allergic Diseases in the Human FcεRI Signaling Pathway. *Immunopharmacology*. 25; 48(3):269-81. 2000.

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#### *BOOK CHAPTERS*

Anthony Dellinger, Zhiguo Zhou, James Connor, A.B. Madhankumar, Sarala Pamujula, and **Kepley, CL**. Fullerenes in nanomedicine. 2013

Anthony Dellinger and **Kepley, CL**. *Nanoscience and Nanoengineering: Advances and Applications*. Ajit Kelkar, Editor, 2015

#### *RESEARCH SUPPORT-FUNDED*

Research grant North Carolina Biotech  
(01/01/16-01/31/18)

Bringing serum to the bedside; prototyping the B2S System.  
Role-PI

SBIR (to KBI) NSF  
01/01/14-07/01/15

A sustainable crustacean bait. The Phase I proposal tests patent-pending molecules for their ability to catch crustaceans and will be marketed as the first sustainable crustacean bait. My nanoscience student, Anthony Dellinger, is the CEO and PI and I serve as President. We would like to move company to Virginia for Phase II.

RO1 Tunitas Therapeutics  
05/1/15-04/31/16

NIH/NIAID

GE2: A Bifunctional Fusion Protein to Treat Allergic Asthma

This proposal aims to further develop the GE2 as a new therapy for allergic disease.

**\*This proposal received a perfect score of 10; every reviewer (three) gave the highest score (one) on every category scored (overall, significance, approach, investigators, environment).**

Role-Sub-contractor

Research grant North Carolina Biotech  
(08/01/13-01/31/15)

Identification and validation of novel therapies for the inhibition of atherosclerotic plaque lesions

Role-PI

STTR Phase I Luna Innovations  
05/1/13-04/31/13

NIH/NIDA  
Nanoparticle scavengers for in vivo sequestration of overdosed drug molecules  
Role-Sub-contractor

SBIR Phase II\* Tunitas Therapeutics  
05/1/13-04/31/16

NIH/NIAID  
GE2: A Bifunctional Fusion Protein to Treat Allergic Asthma and Food Allergy  
This proposal aims to further develop the GE2 as a new therapy for allergic disease.  
Role-Sub-contractor

The National Cancer Institute, Nanotechnology Characterization Laboratory, Chris Kepley (PI) 2008  
Using gadolinium-containing C80 endohedral metallofullerenes for bioimaging cancers  
The NCI-NCL is performing in depth characterization of our fullerene-based imaging agents

Food Allergy and Anaphylaxis Network  
2/01/05-10/31/09

Research Grant Chris Kepley (PI)  
“Development of a human peanut model system to test novel therapeutic molecules”

5 U01 NS063723-02 Marion Ehrich (PI; VA Tech)  
09/04/2008-09/01/2010

Counteract  
Fullerenes Counteracting Organophosphorus Threats  
The goals of CounterACT include development of medical countermeasures against chemical agents that could be used to cause mass casualties in civilian populations due to terrorist attack or a natural disaster.  
Role: co-I

RO1 RO1AI077653 Anna Pomes (PI)  
07/01/2011-06/30/2013  
Indoor Biotechnologies  
Testing allergen mutants on human mast cell mediator release  
Role: co-I sub

American Asthma Foundation  
07/01/2012-06/30/2015

Dan Conrad (PI)  
Subcontract with Virginia Commonwealth University for your project "The Kainic Acid receptor-Adam10 axis in allergic asthma".  
Role: Subcontract PI

UNCG New Faculty Grant (NFG) and Summer Excellence Research Award (SERA) Summer 2012  
Chris Kepley (PI)  
Testing novel fullerene derivatives as atherosclerosis therapies

*RESEARCH SUPPORT-COMPLETED*

R01 GM083274-02 Chris Kepley (PI)  
07/21/08-06/30/12

NIH/NIGMS

Using Nanomaterials to Inhibit Mast Cell Basophil-Associated Disease

This proposal investigates the in vivo and in vitro effects of fullerenes on FcRI-mediated diseases such as asthma, arthritis, and allergy.

1R43CA128273-01A2 Chris Kepley (PI)  
07/01/2008-06/30/2010

NCI

Development of Glioblastoma-Targeting Endofullerenes for Imaging Brain Tumors

This proposal aims to provide physicians with new tools to diagnose and treat glioblastoma

1R43HL087578-01A1 Chris Kepley (PI)  
1/16/08-05/31/09

NIH/NHLBI

Development of Novel Cholesteryl-Derivatized Endohedral Metallofullerenes for Imaging Atherosclerotic Plaque

This proposal investigates fullerenes as a new way to prevent heart attacks and stroke

R21 ES015696-01A1 Chris Kepley (PI)  
09/30/09-12/31/10

NIH/NIEHS

Prevention of Allergic Disease Using Nanomaterials

This proposal investigates how fullerenes inhibit cellular functions

1K18AI073442-01A1 Chris Kepley (PI)  
12/1/07-11/30/08

NIH/NIAID

Differentiation of Human Embryonic Stem Cells into Mast Cells and Basophils

000P60 Asthma and Allergic Diseases Cooperative Disease Center (VCU) 3/01/08-2/28/13  
NIH/NIAID

Cellular and Inflammatory Pathways in Atopic Asthma

Project 1 aims to understand the mechanisms of desensitization of human mast cells and basophils (Co-PI). Core B aims to provide cells for these studies (PI).

2 R01 AI15251-24 Andy Saxon (PI)  
7/01/03-6/30/08

NIH/NIAID

“Allergy Therapy with Chimeric Immunoglobulin Proteins”

The goal of this proposal is to develop innovative strategies based on novel chimeric Ig proteins to inhibit FcεRI-mediated degranulation and to understand the mechanisms involved in order to interrupt the cycle of immunological events responsible for disease progression in atopy and asthma.

Role: co-PI

American Lung Association

7/01/03-7/31/06

“ITIM Receptors as Potential Therapeutic Targets for Allergic Asthma”

The goal of this project is to first define ITIM receptors on human mast cell subsets and investigate their ability to “turn them off”.

Role: PI

AD Williams Internal Research Grant

7/01/03-6/30/04

Virginia Commonwealth University

“The Effects of Fine Particulate Air Pollution Components on Human Mast Cell Mediator Release”

The goal of this proposal is to examine the role of PAHs in the activation of human FcRI-positive mast cells.

Role: PI

Francis Family Foundations; Parker B. Francis Fellowship in Pulmonary Research 7/01/2000-6/30/03

“Negative Regulation of Fc ε RI-Mediated Signal Transduction in Asthma”

The goal of this project, supported by Harvard Medical School Department of Environmental Health, is to encourage research and foster support for young researchers interested in establishing a career in pulmonary research.

Role: PI

2 P50; HL56384 Lipscomb (PI)

11/31/01-12/1/06

NIH/NHLBI

“The Role of Immune Dysregulation in Allergic Asthma”

This project supports a Specialized Center of Research (SCOR) that examines different aspects of immune dysregulation and resulting inflammation in asthma, including roles for T cells, eosinophils, basophils and mast cells in a mouse model of asthma and in human asthma.

Role: co-Investigator

Food Allergy and Anaphylaxis Network Research (PI)

2007-2009

Developing peanut allergy-specific therapeutics.

University of New Mexico Internal Research Award

1996-1997