

# RADFORD UNIVERSITY

Board of Visitors

## **ACADEMIC EXCELLENCE AND RESEARCH COMMITTEE**

**2:30 P.M.**

**DECEMBER 1, 2022**

**MARY ANN JENNINGS HOVIS MEMORIAL BOARD ROOM  
MARTIN HALL, THIRD FLOOR, RADFORD, VA**

### **DRAFT** **MINUTES**

#### **COMMITTEE MEMBERS PRESENT**

Dr. Rachel D. Fowlkes, Chair  
Ms. Jeanne S. Armentrout  
Mrs. Jennifer Wishon Gilbert  
Mr. Tyler Lester  
Dr. Kurt Gingrich, Non-voting Faculty Advisory Member

#### **COMMITTEE MEMBERS ABSENT**

Ms. Georgia Anne Snyder-Falkinham, Vice Chair

#### **OTHER BOARD MEMBERS PRESENT**

Dr. Debra K. McMahon, Rector

#### **OTHERS PRESENT**

Dr. Marten denBoer, Interim Provost and Senior Vice President for Academic Affairs  
Dr. Steven Bachrach, Dean of the Artis College of Science and Technology  
Dean Joy Bhadury, Dean of the Davis College of Business and Economics  
Ms. Karen Castele, Secretary to the Board of Visitors and Special Assistant to the President  
Dr. Stephanie Caulder, Dean of the College of Visual and Performing Arts  
Dr. Tim Channell, Assistant Provost for Budget and Academic Operations  
Dr. Wendy Downey, Interim Dean of the School of Nursing  
Dr. Tim Fuhrer, Associate Professor, Department of Chemistry  
Dr. Sarah Foltz, Assistant Professor, Department of Biology  
Dr. Laura Jacobsen, Interim Dean of the Libraries  
Dr. Jeanne Mekolichick, Associate Provost for Research, Faculty Development and Strategic Initiatives  
Dr. Jessica Stowell, Director of Institutional Effectiveness and Quality Improvement  
Marcelle Gray, Radford University Student  
Elizabeth Lee, Radford University Student  
Kiersten Smith, Radford University Student

## **CALL TO ORDER**

Dr. Rachel D. Fowlkes, Chair, formally called the meeting to order at 2:30 p.m. in the Mary Ann Jennings Hovis Memorial Board Room in Martin Hall.

## **APPROVAL OF AGENDA**

Dr. Fowlkes asked for a motion to approve the December 1, 2022 agenda. Mr. Tyler Lester so moved, Ms. Jeanne Armentrout seconded, and the motion carried unanimously.

## **APPROVAL OF MINUTES**

Dr. Fowlkes asked for a motion to approve the minutes of the September 8, 2022 meeting of the Academic Excellence and Research Committee, as published. Ms. Armentrout so moved, Mrs. Jennifer Wishon Gilbert seconded the motion and the September 8, 2022 minutes were unanimously approved.

## **ACADEMIC AFFAIRS REPORT**

Dr. denBoer presented updates on the Goals for 2022-2023.

### **Goal #1: Successful SACS Reaffirmation**

Dr. denBoer introduced Dr. Jessica Stowell, the Director of Institutional Effectiveness and Quality Improvement, who presented an update on the progress of our SACSCOC reaffirmation of accreditation that included results of the off-site review.

The timeline for the remainder of the reaffirmation cycle:

February 2023	Submit reply to focus report and final QEP proposal
March 27-30, 2023	Onsite Visit
August 2023	Submit Onsite Response Report
December 2023	SACSCOC Board of Trustees Review

### **Goal #2: Faculty workload optimization**

Faculty Senate developed revision to language in the Teaching and Research Faculty Handbook, Section 2.3: Teaching Responsibilities. This revision provides more detailed guidance on faculty teaching loads, including broad criteria for reassigned time. The revision clarifies that reassigned time may be appropriate for faculty with significant administrative or service responsibilities or for faculty engaged in especially intensive scholarly, professional, or creative activities. It also allows for the use of reassigned time to support university initiatives related to recruitment and retention.

## **ACTION ITEM**

### **Recommendation to Approve Revisions to *Teaching and Research Faculty Handbook, Section 2.3, Teaching Responsibilities***

Interim Provost denBoer presented a recommendation for changes to the Teaching and Research Faculty Handbook, Section 2.3: Teaching Responsibilities.

Dr. Fowlkes asked for a motion to recommend the change to the full Board for approval. Ms. Jeanne Armentrout so moved, Mr. Tyler Lester seconded, and the motion carried unanimously. A copy of the resolution is attached hereto as ***Attachment A*** and is made a part hereof.

### Goal #3: Increase Average Class Size

Once Spring 2023 has started, a comparison to Fall 2022 and Spring 2023 report will be created and an update will be presented at the next Academic Excellence and Research Committee meeting in March 2023.

### Goal #4: Increase in externally funded activities

Interim Provost denBoer reported that grant-fostering activities include Undergraduate Research, Scholarship and Creative Inquiry (URSCI) mini-grants, Elevate Research Program, grant writing workshops, and newly created Research and Creative Scholarship Quarterly Newsletter. Preliminary indicators for July-November 2021 vs. 2022 show an increase. New proposals are up 26%, new awards are up 16% and first-time faculty grant writers up from four to five.

### Emeritus

Based on recommendations from the Department Personnel Committee, the Department Chair, the College Dean, and the Provost, the President has awarded emeritus status to the following retired faculty member:

*Associate Professor Robert Hadley      Department of Physician Assistant*

Criteria for the awarding of emeritus faculty status are: a minimum of ten years of service to Radford University; evidence of effective teaching; and significant professional contributions.

## **ACADEMIC AFFAIRS UPDATES**

### Dalton Eminent Scholar Award

The Dalton Eminent Scholar Award recipients for 2022:

Dr. Steven Fesmire    Department of Philosophy and Religious Studies

Dr. Rick Van Noy    Department of English

The Dalton Eminent Scholar Rising Star recipient for 2022:

Dr. Zachary Collier, Department of Management

### Interim Associate Provost for RUC

Dr. Glen Mayhew will serve as Interim Associate Provost for RUC.

### FERP – Faculty Early Retirement Program

The FERP is designed to facilitate the release of faculty resources for budget reallocation or reduction in accordance with the University's goals, changes in enrollment and other University needs while providing a financial early retirement incentive for eligible faculty. The plan was approved in pursuant to Code of Virginia § 23.1-1302 and approved by the Governor and Board of Visitors. There were 17 Radford University faculty members who applied for the FERP and 16 were approved.

### Cooperation with Virginia Tech

Discussions are continuing with Virginia Tech to explore opportunities to collaborate. Topics have included: 3-2 programs with criminal justice, sociology, possibly engineering, nursing and

allied health program; nursing and allied health programs sharing services in Roanoke, and students from Virginia Tech attending communication science and disorders classes at Radford.

### Governor's School

Summer Residential Governor's School Director, Dr. R. Wayne Gallops has stepped down as Director. Dr. Gallops' leadership and hard work is appreciated. A search is underway for a new director.

### College Recognitions

- Davis College of Business and Economics: Ranked #16 nationally for part-time MBA.
- College of Education and Human Development: Virginia Department of Education (VDOE) Teacher Apprenticeship Planning Grant awarded all 3 VDOE paid internship applicants.
- Artis College of Science and Technology: 3 biology students published in flagship biomechanics journal. Karen Powers, in the department of biology, was awarded a lifetime achievement award by the Wildlife Society. Professor Donna Boyd is honored in an American Academy of Forensic Sciences video presentation. Faculty presented at the Council on Undergraduate Research (CUR) Scholar Research Workshop.
- College of Humanities and Behavioral Sciences: The Wicked Festival was held on November 10, 2022. This festival is an exposition of student problem solving and is hosted by the College of Humanities and Behavioral Sciences, supported by the Center for Innovative Teaching and Learning (CITL), Citizen Leader program and the Office of Undergraduate Research and Scholarship. Students analyze difficult societal problems and present a variety of possible solutions through presentations, posters and videos. This year over 300 students participated.
- School of Nursing: Doctor of Nursing Practice student presented at the Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN) Convention in Aurora, CO.
- College of Visual and Performing Arts: Radford University's Graduate Art Student Association (GASA) officially launched its Miniature Museum, featuring tiny works of art created by Radford students. The Miniature Museum is a permanent display located in the lobby of the Radford University's McConnell Library and is open for public viewing during library hours.

### Open Education Resources (OER)

Dr. Laura Jacobsen, the Interim Dean of Libraries, presented The Affordable Course Materials Initiative at Radford University. This initiative is designed to help improve student achievement of course learning outcomes, lower educational material costs to students, and improve student access to materials. As a part of this initiative, beginning in Spring 2023 no-cost and low-cost courses are tagged in Radford's course registration system.

### Student Presentations

#### *Molecular Orbital Study of a New Class of Large Cage Fullertube*

Elizabeth Lee and Kiersten Smith, both junior biology majors, are mentored by Dr. Tim Fuhrer, Associate Professor of Chemistry. A copy of the presentation is attached hereto as **Attachment B** and is made a part hereof.

***Exploring Interactions Between Land Use Type Nest Predators***

Marcelle Gray, a biology major, is mentored by Dr. Sarah Foltz, Assistant Professor of Biology. A copy of the presentation is attached hereto as ***Attachment C*** and is made a part hereof.

**ADJOURNMENT**

With no further business to come before the committee, Dr. Fowlkes adjourned the meeting at 4:07 p.m.

Respectfully submitted,

Rhonda D. Conner  
Executive Assistant to the Provost

**RADFORD UNIVERSITY ACADEMIC EXCELLENCE AND RESEARCH COMMITTEE  
December 1, 2022**

**RESOLUTION TO AMEND THE  
TEACHING AND RESEARCH FACULTY HANDBOOK**

**WHEREAS**, All proposed changes to the *Teaching and Research Faculty Handbook* must be managed in accord with §5.0 of that handbook, and

**WHEREAS**, the authority to amend or revise the Faculty Handbook lies with the Board of Visitors. However, proposals for revising the Handbook may be initiated by faculty, administrators, the President, or members of the Board of Visitors. Revisions fall into two categories: (1) those required to ensure that the University is in compliance with state policies and mandates, and (2) those within the purview of the decision-making processes within the University, and

**WHEREAS**, revisions required to ensure that the University is in compliance with state policies and mandates, and that do not require a decision by University personnel, will be effected through an administrative update, with faculty being informed of the change and the reasons for it, and

**WHEREAS**, revisions within the purview of the decision-making processes in the University Internal Governance system will be considered by appropriate committees as defined by the Internal Governance system. Proposals for changes will be made in the form of text intended to replace a portion of the Teaching and Research Faculty Handbook, noting new language and striking out the old language, and

**WHEREAS**, it will be the Faculty Senate's responsibility to ensure that the general faculty is provided time and opportunity to review the proposed change so faculty can communicate with their senators prior to any action by the Faculty Senate; and

**WHEREAS**, the Faculty Senate's recommendations on proposed revisions to the Teaching and Research Faculty Handbook will be forwarded to and approved by the President. The Provost will forward the Faculty Senate's recommendations to the Academic Excellence and Research Committee who will in turn make recommendations to the member of the full Board of Visitors; and

**NOW, THEREFORE, BE IT RESOLVED**, that the Board of Visitors of Radford University hereby approve in accordance with §5.0 of the *Teaching and Research Faculty Handbook*, **Section 2.3: Teaching Responsibilities** of the *Teaching and Research Faculty Handbook* as hereby amended. Said sections are to now read as follows:

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[Motion to Revise the Teaching Responsibilities Language in the Teaching and Research Handbook](#)

**Referred by:** Curriculum Committee

## **MOTION:**

The Faculty Senate recommends the addition of language (**red type**) and the deletion of language (stricken through) in section 2.3 Teaching Responsibilities of the T&R Faculty Handbook to read:

### **2.3 Teaching Responsibilities**

~~For faculty members with responsibilities for advising, university service, and expectations of professional contributions, the normal teaching load is twelve (adjusted) semester hours per semester. For faculty who have no significant responsibilities other than teaching, the normal (adjusted) teaching load is fifteen semester hours per semester.~~

~~Assigned faculty teaching load reflects a variety of factors such as disciplinary norms, the number of students enrolled in classes, the number of preparations required, and the level of courses taught. Department chairs assign teaching responsibilities with the approval of the Dean~~

**Assigned faculty teaching load reflects a variety of factors such as disciplinary norms and accreditation, the number of students enrolled in classes, the number of preparations required, the level and type of courses taught, and responsibility for laboratory, clinical, studio, or practicum instruction. Department chairs and school directors assign teaching responsibilities, based on university goals and priorities, department and college needs, consideration of disciplinary accreditation, and the faculty member's interests and capabilities, with the approval of the appropriate supervising dean.**

**The chair or director determines the faculty member's teaching load distribution for each academic semester in consultation with the faculty member, prior to the determination of the course schedule.**

**For faculty who have no significant responsibilities other than teaching, the normal (adjusted) teaching load is fifteen semester hours per semester. For faculty members with responsibilities for advising, university service, and expectations of professional contributions, the normal teaching load is twelve (adjusted) semester hours per semester.**

**Faculty who devote a significant amount of time in high-engagement practices may receive time reassigned from the normal (adjusted) teaching load. High-engagement practices are those that enhance student recruitment, retention, persistence, and degree completion.**

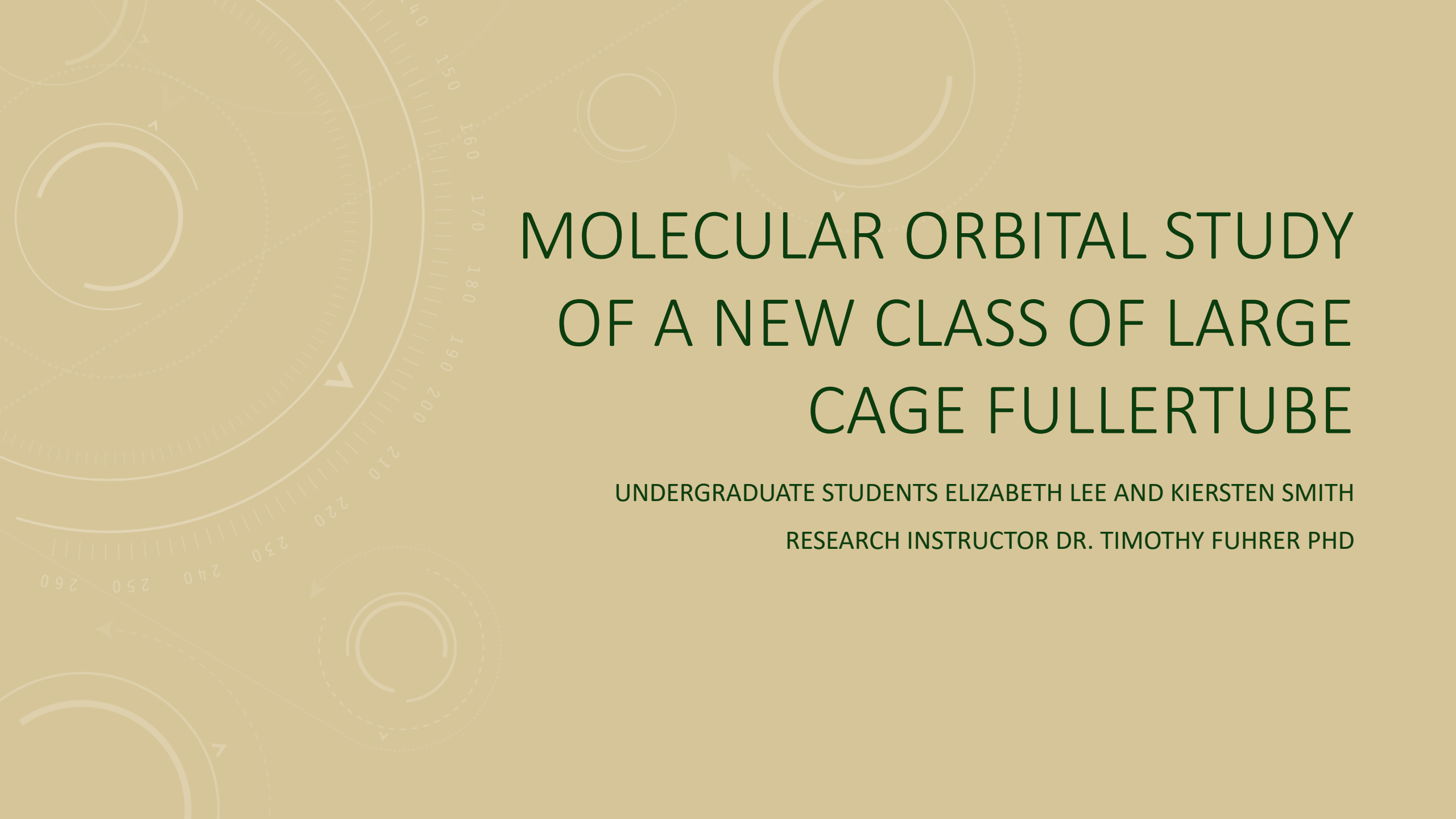
**Faculty who are heavily committed to service or undertaking especially intensive professional, scholarly and creative contributions could have additional reassignment of time, arranged in consultation with their chair or director and the appropriate supervising dean.**

**Faculty involved in administration of academic programs may also have a reduced teaching load, in consultation with the appropriate supervising dean.**

**RATIONALE:**

The revised language provides more detailed guidance on faculty teaching loads, including broad criteria for reassigned time. The revision clarifies that reassigned time may be appropriate for faculty with significant administrative or service responsibilities or for faculty engaged in especially intensive scholarly, professional, or creative activities. It also allows for the use of reassigned time to support university initiatives related to recruitment and retention.



The background features a light beige color with several faint, overlapping circular patterns. On the left side, there is a large circular scale with numerical markings from 40 to 260 in increments of 10. The scale is partially obscured by other circular elements. There are also several smaller circles, some with dashed lines and arrows, scattered across the background, suggesting a scientific or technical theme.

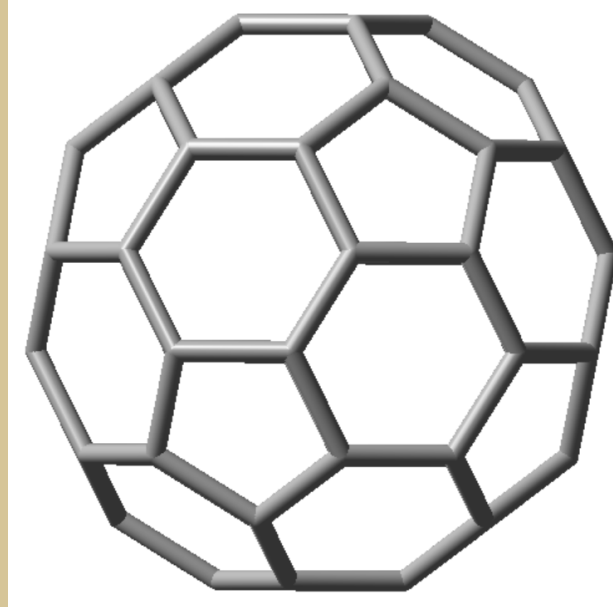
# MOLECULAR ORBITAL STUDY OF A NEW CLASS OF LARGE CAGE FULLERTUBE

UNDERGRADUATE STUDENTS ELIZABETH LEE AND KIERSTEN SMITH

RESEARCH INSTRUCTOR DR. TIMOTHY FUHRER PHD

# INTRO TO FULLERENES

Fullerenes were discovered over 35 years ago at Rice University in Houston, Texas<sup>2</sup>. The first fullerene found was named Buckminsterfullerene, otherwise known as  $C_{60}$ . This is the most stable isotope with a truncated icosahedron structure, often referred to have a “soccer ball” shape.



# BASIS FOR RESEARCH

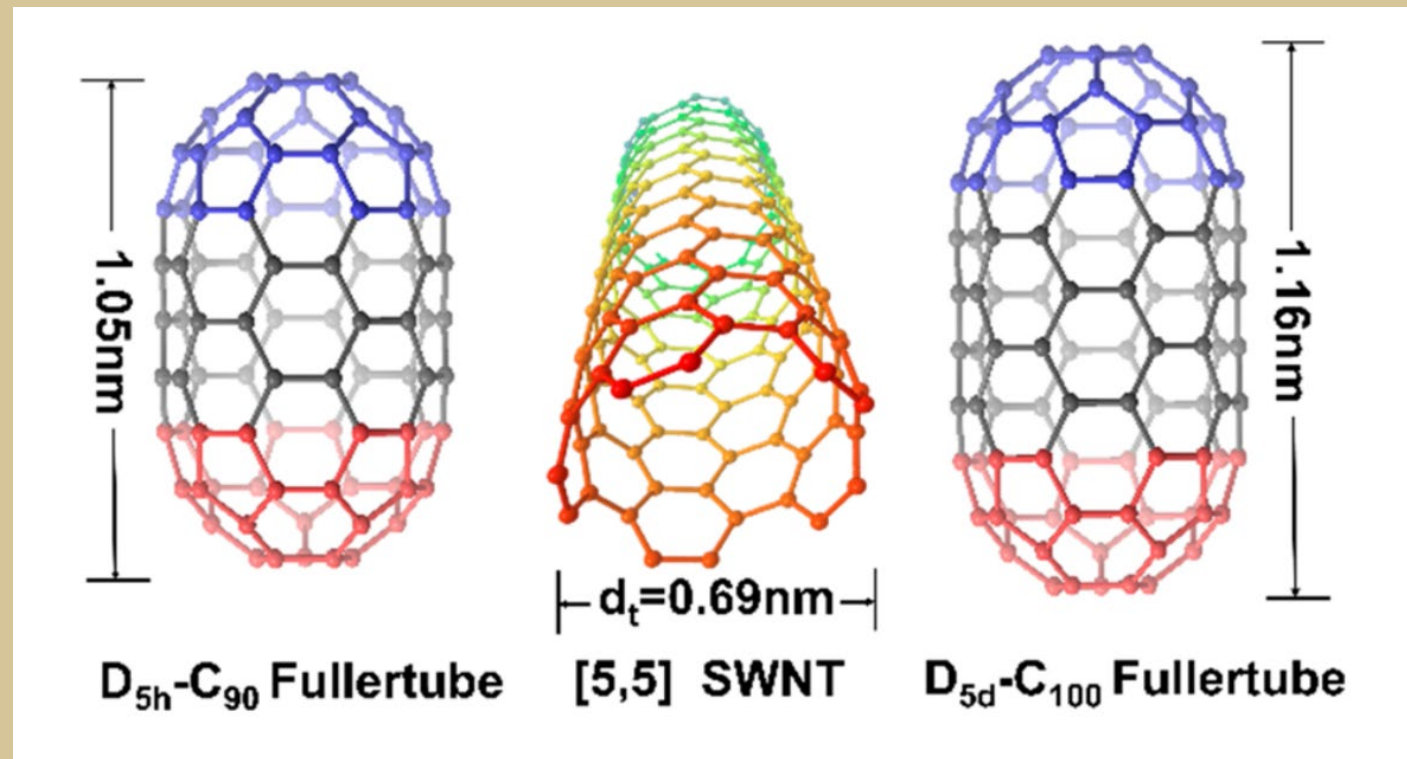
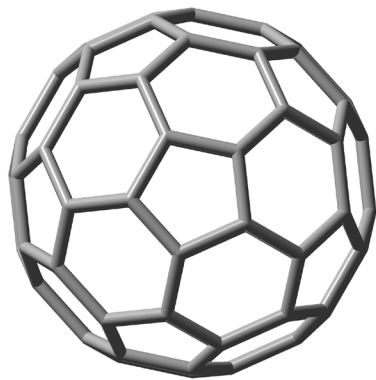
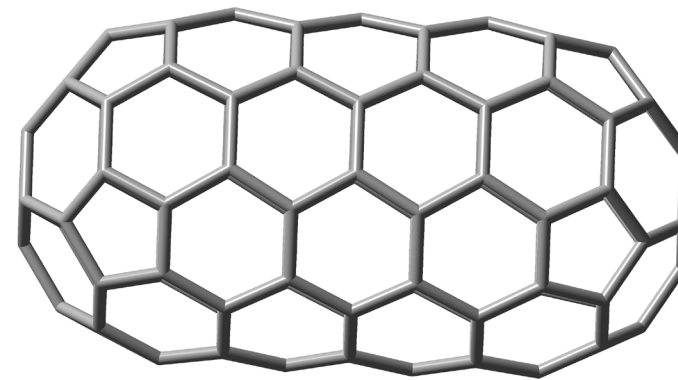


Figure 1. Image Source Stevenson, S., et al, 2021

**[5,5] End Cap**



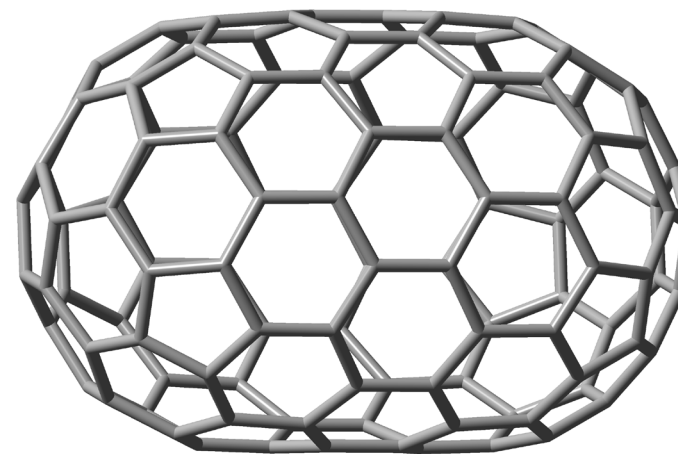
**[5,5] Side View**



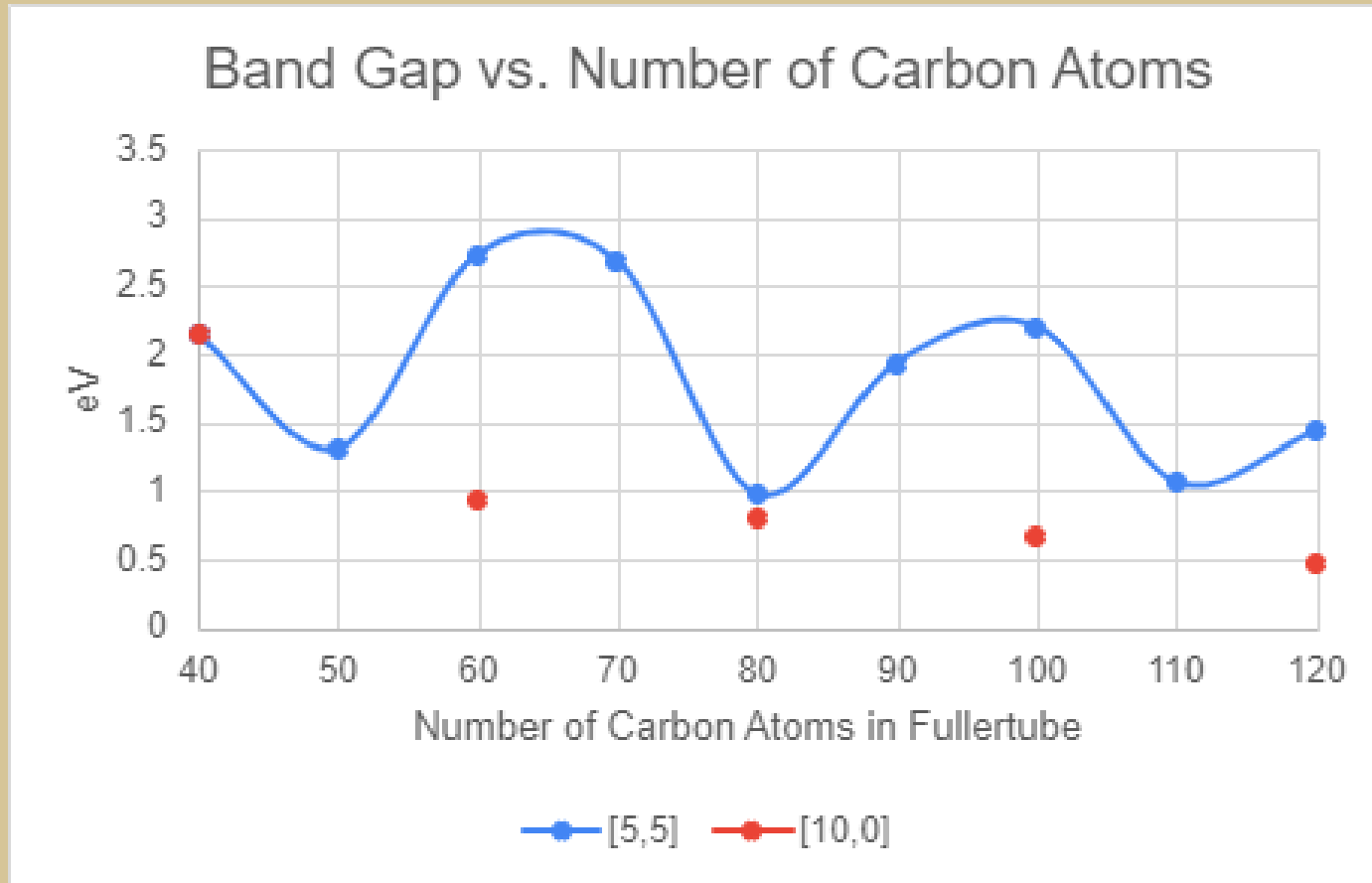
**[10,0] End Cap**



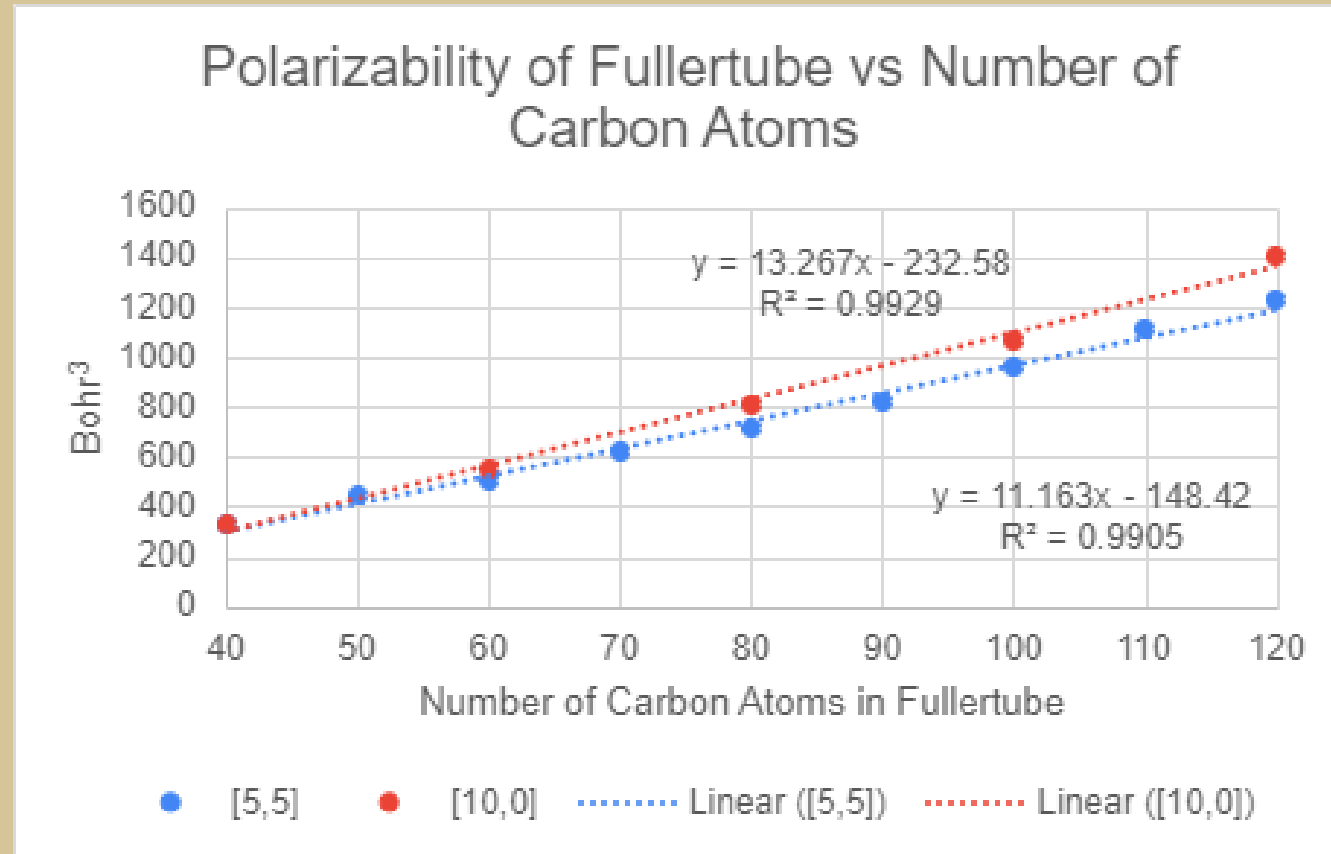
**[10,0] Side View**



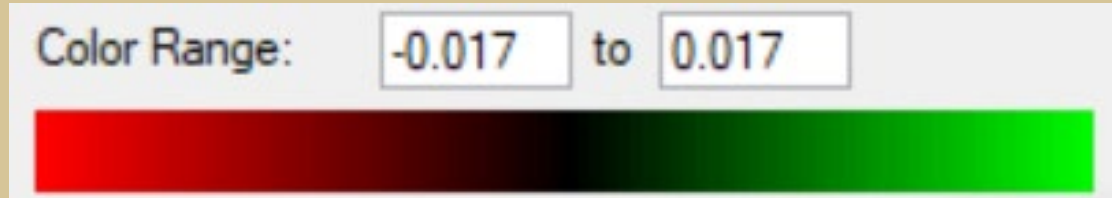
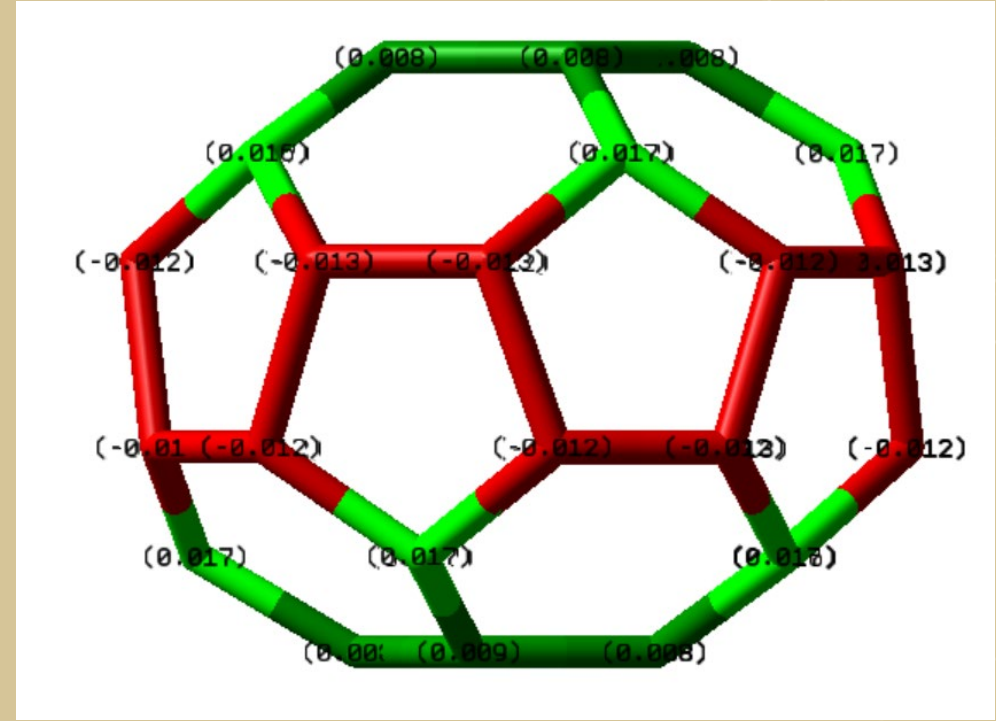
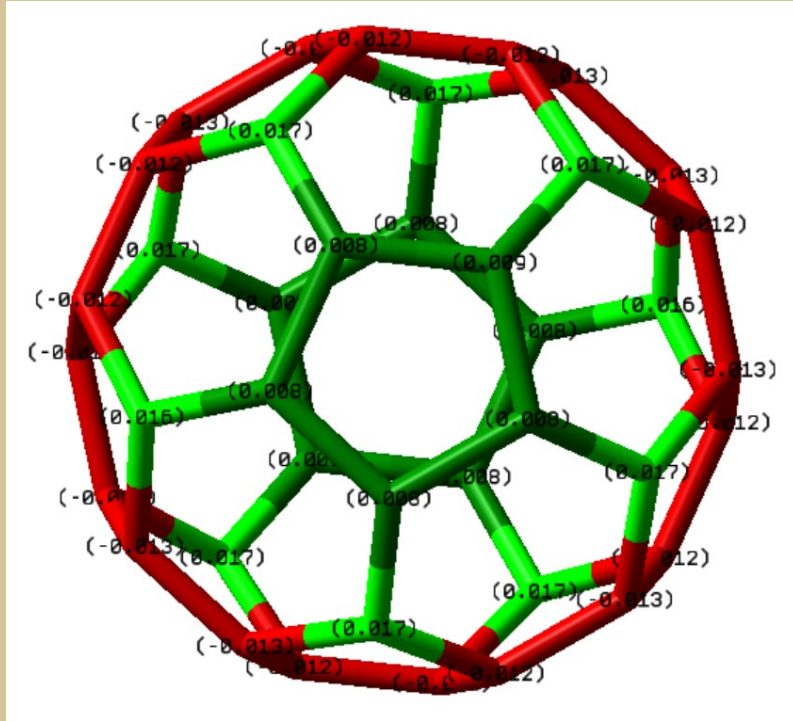
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# POLARIZABILITY RELATED TO AROMATICITY

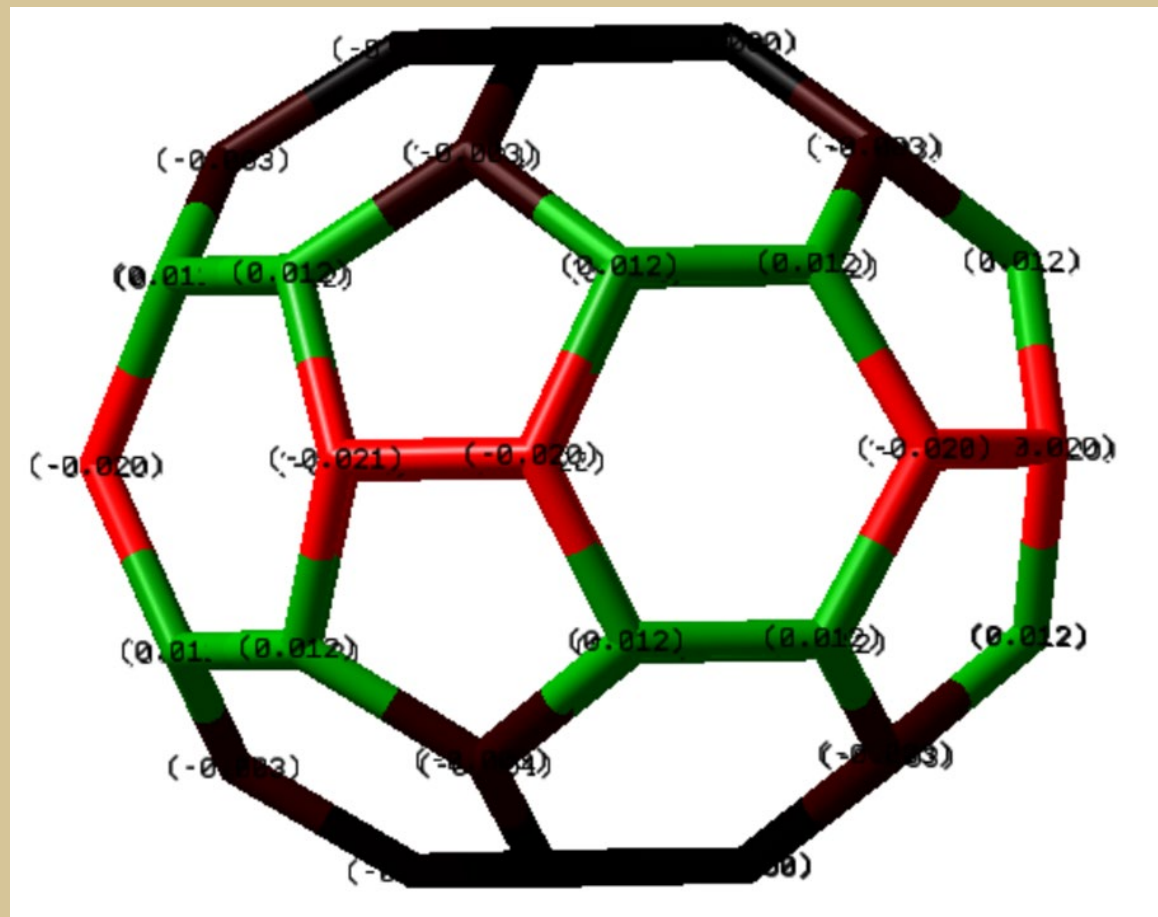


# $C_{40}$ [5,5]



- Negative Charge 
- Neutral Charge 
- Positive Charge 

$C_{50} [5,5]$



Color Range:

-0.021

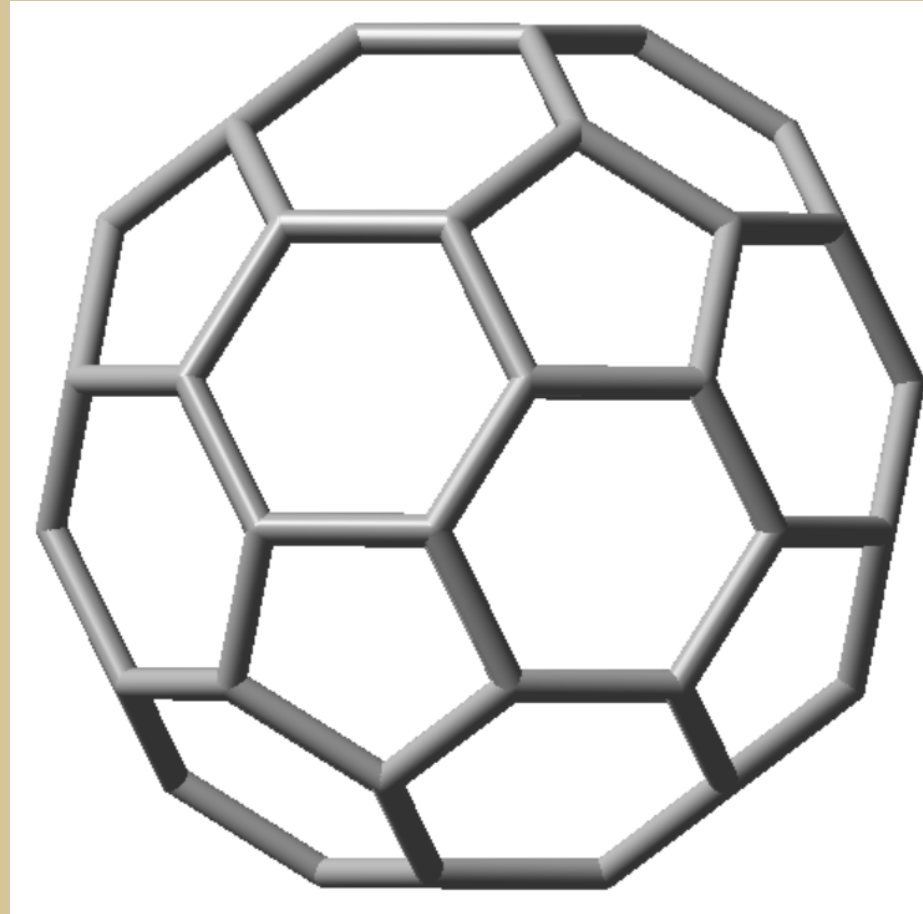
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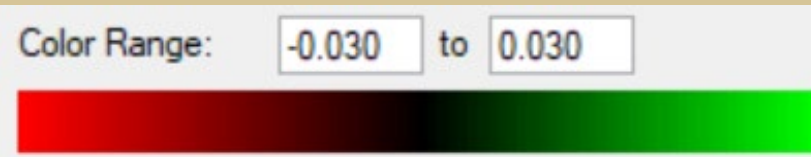
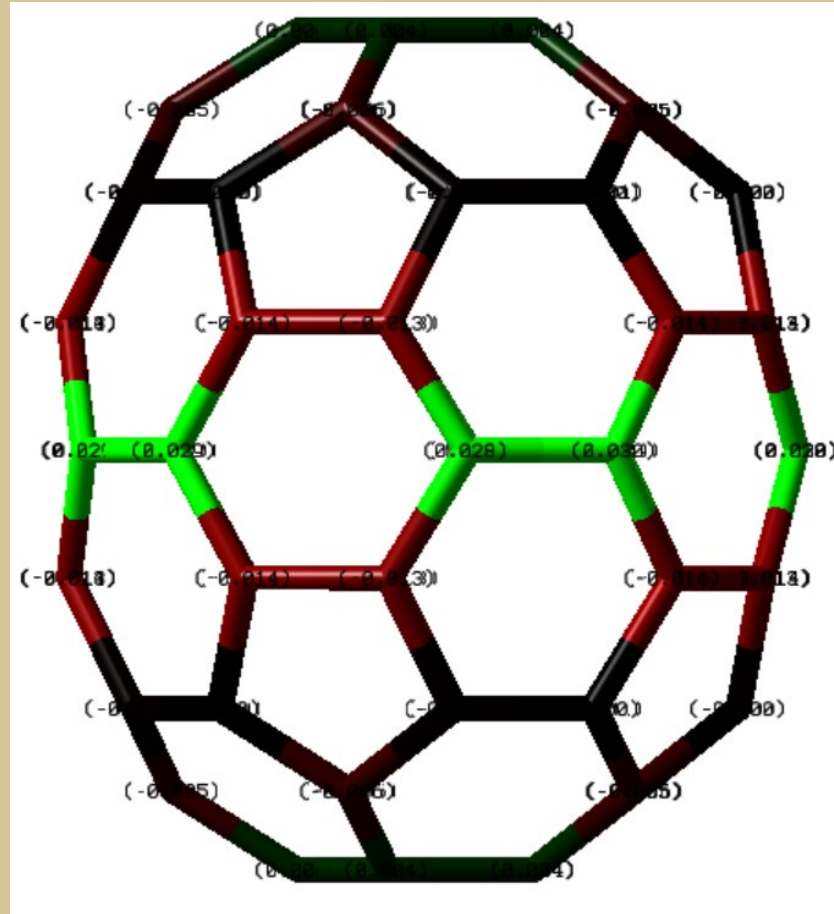




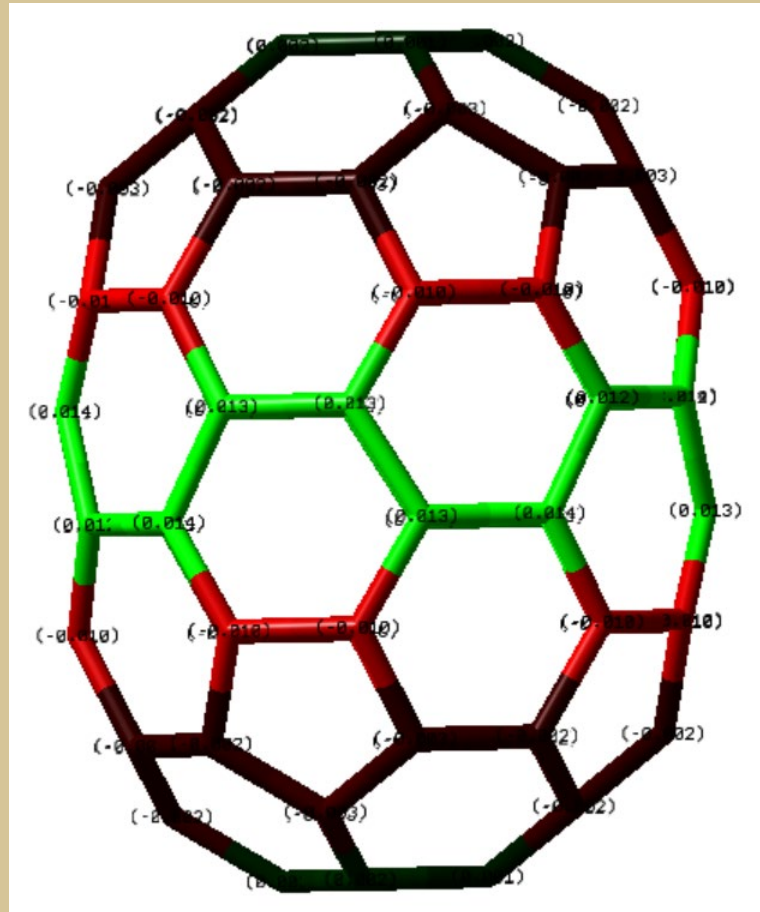
$C_{60}$  [5,5]



# $C_{70}$ [5,5]



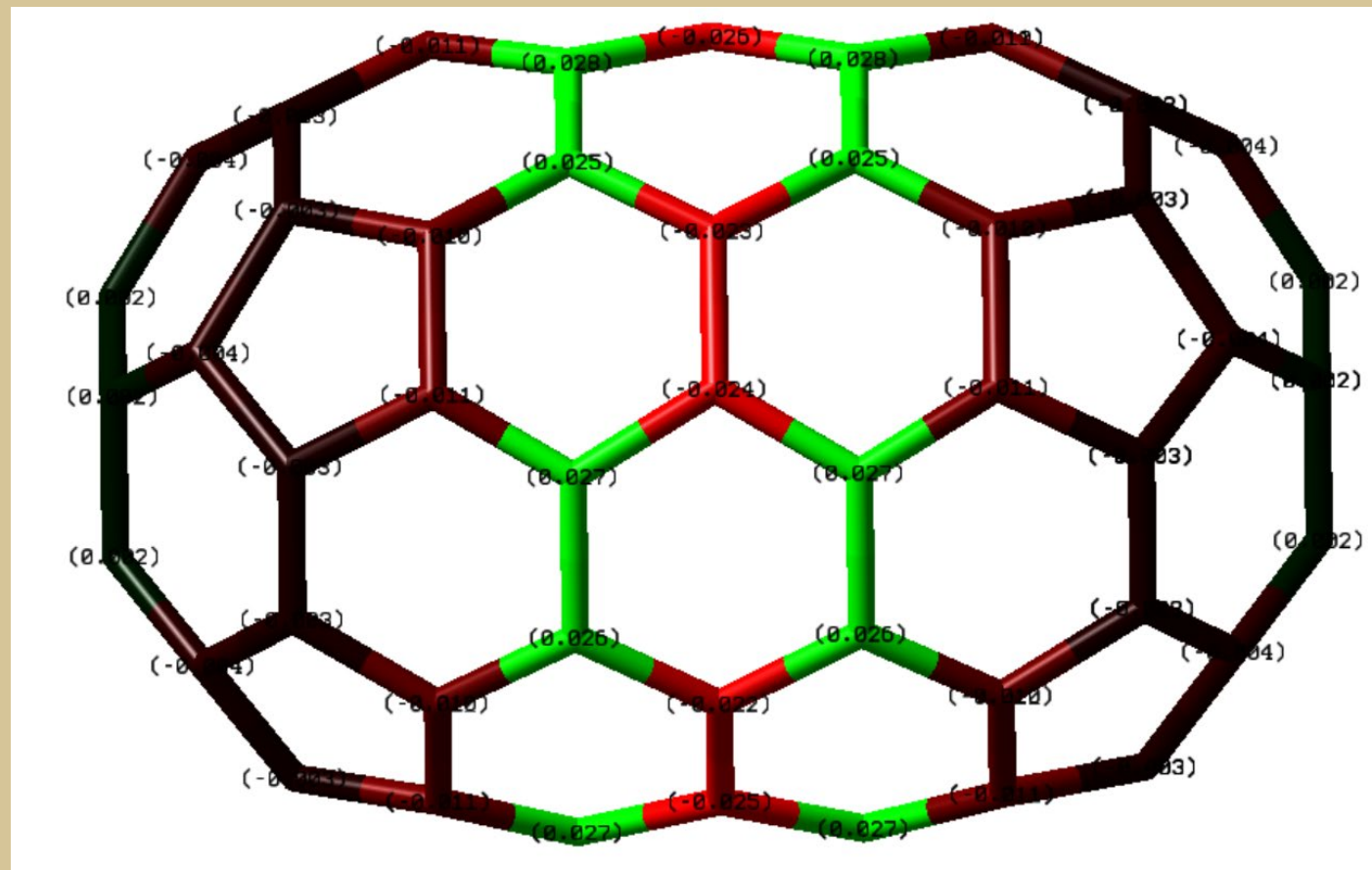
# $C_{80}$ [5,5]



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# $C_{90}$ [5,5]



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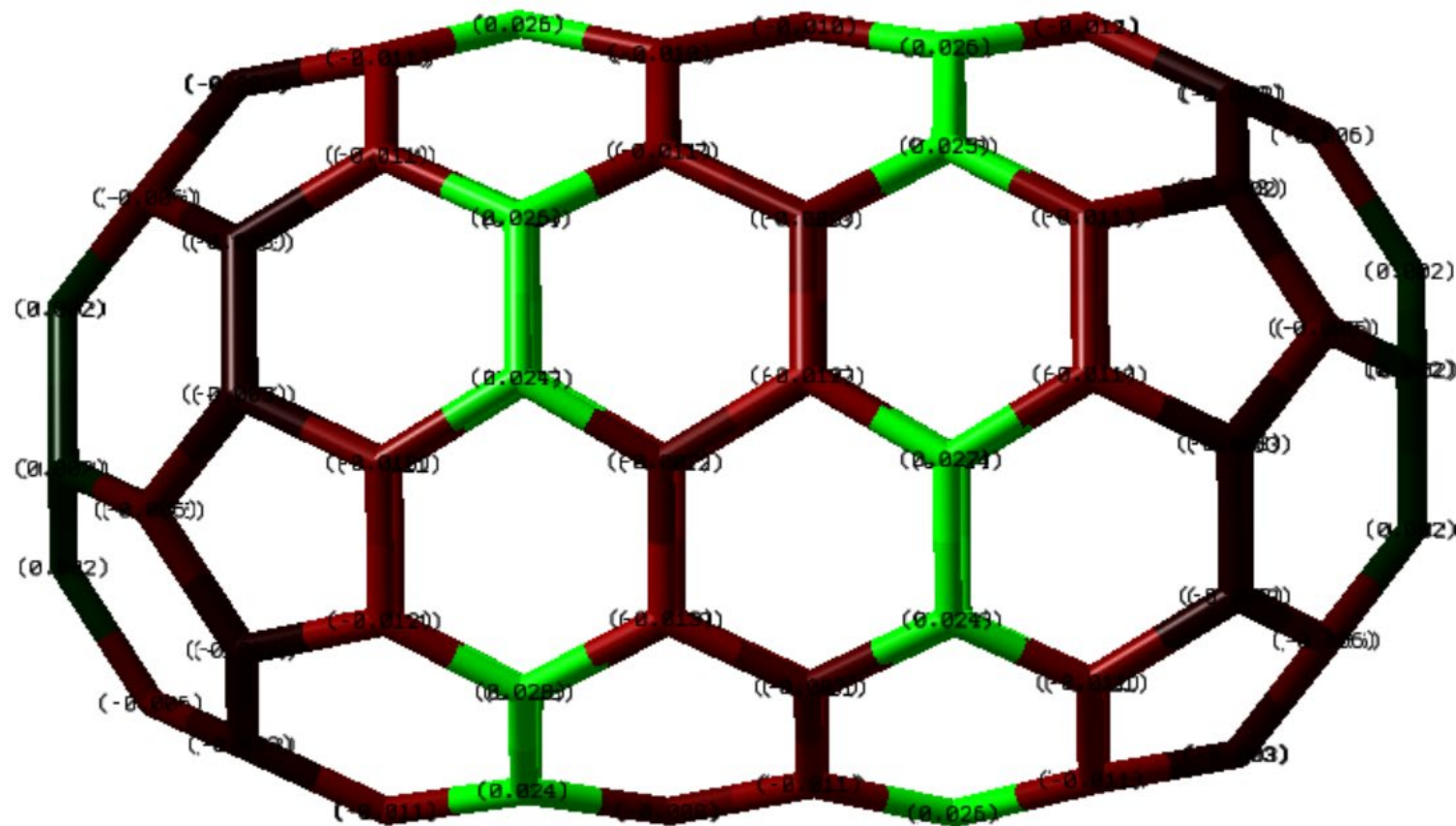
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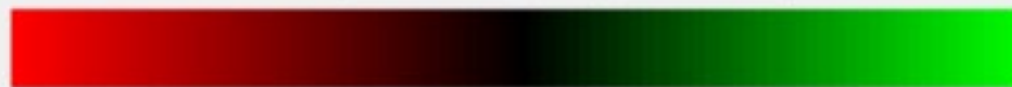
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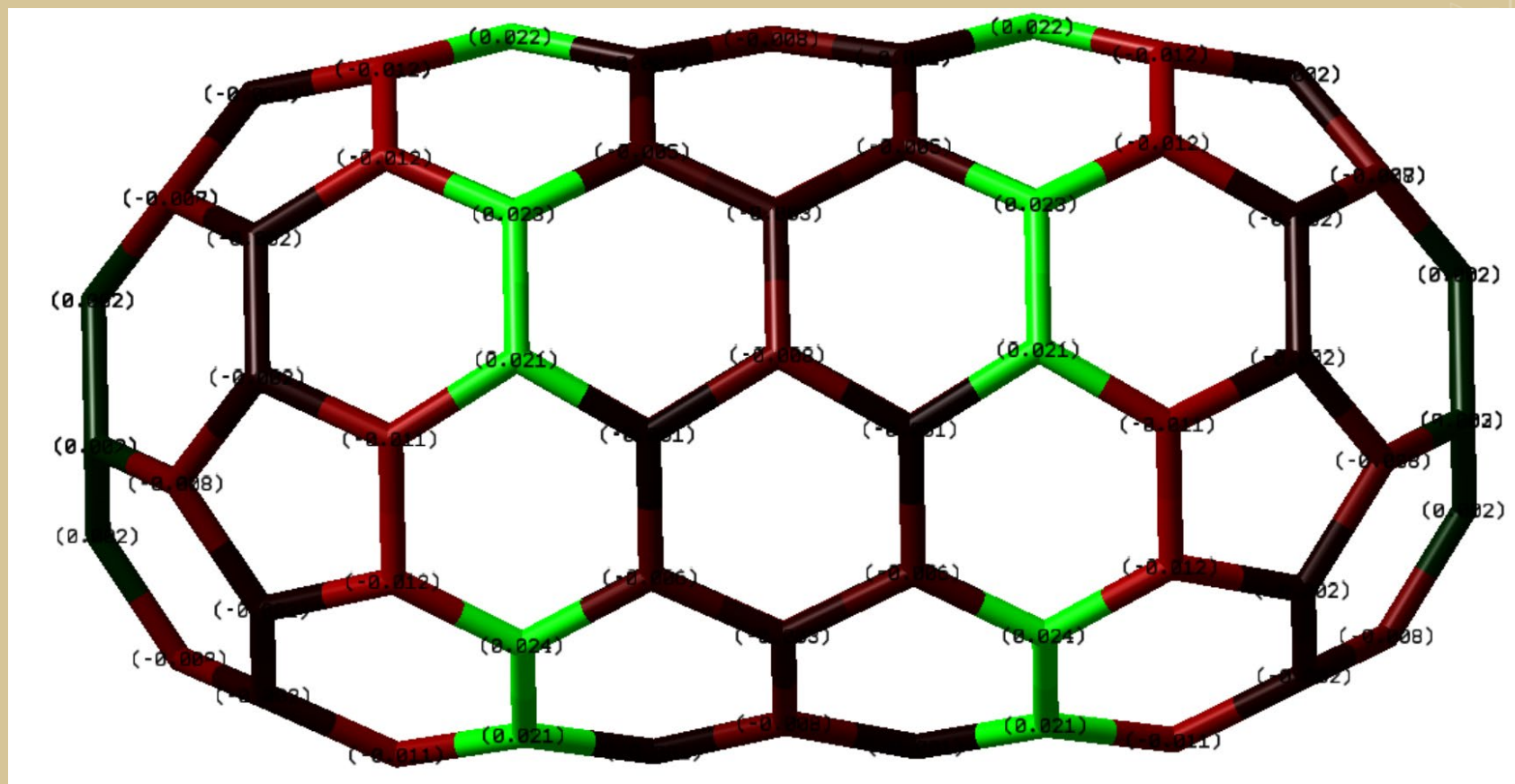
$C_{100}$  [5,5]



Color Range:  to



# $C_{110}$ [5,5]



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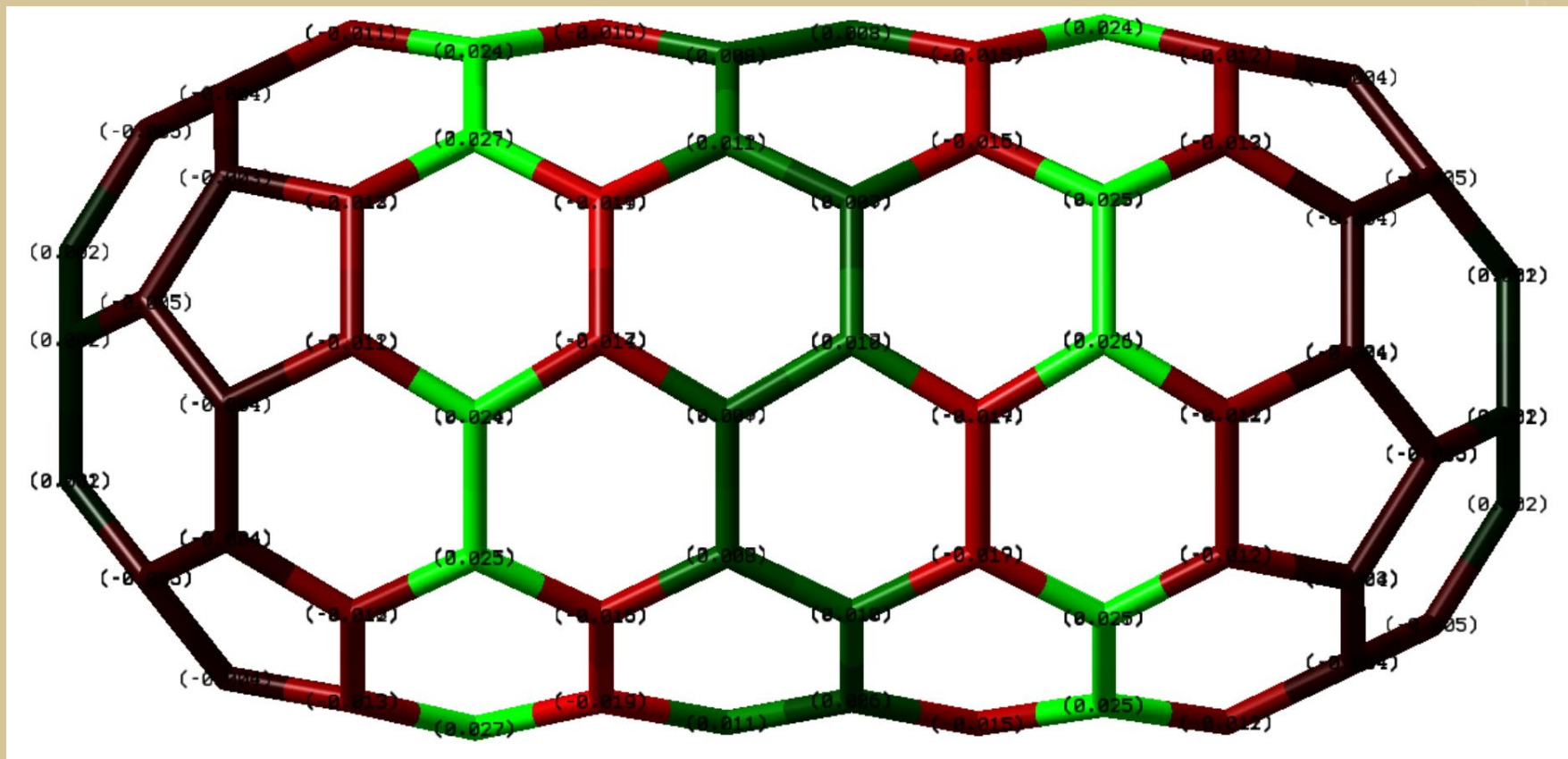
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to

0.024



# $C_{120}$ [5,5]



Color Range:

-0.027

to

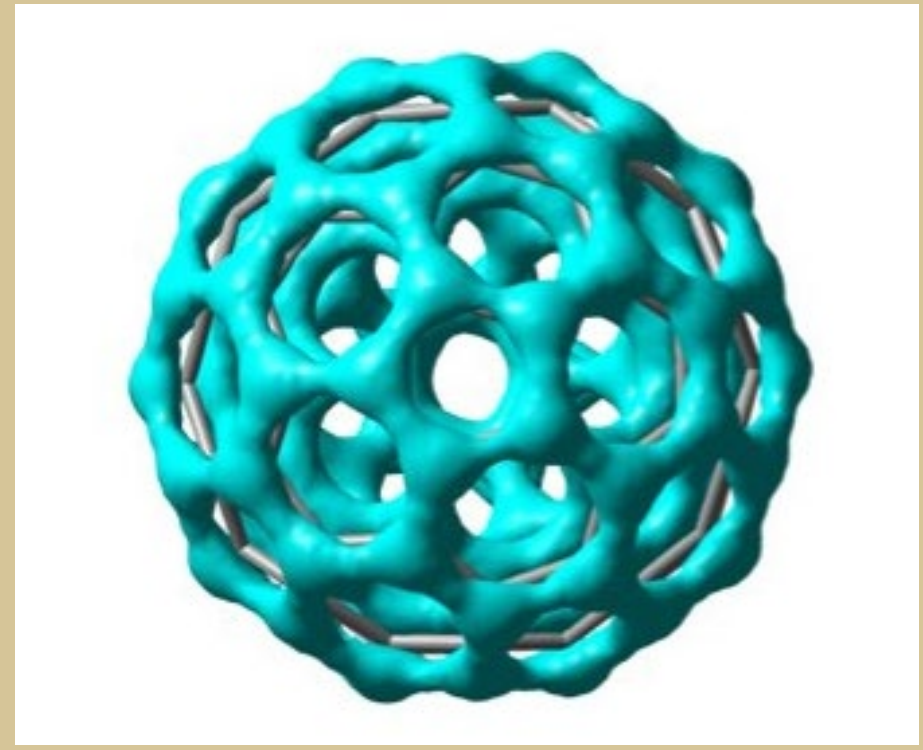
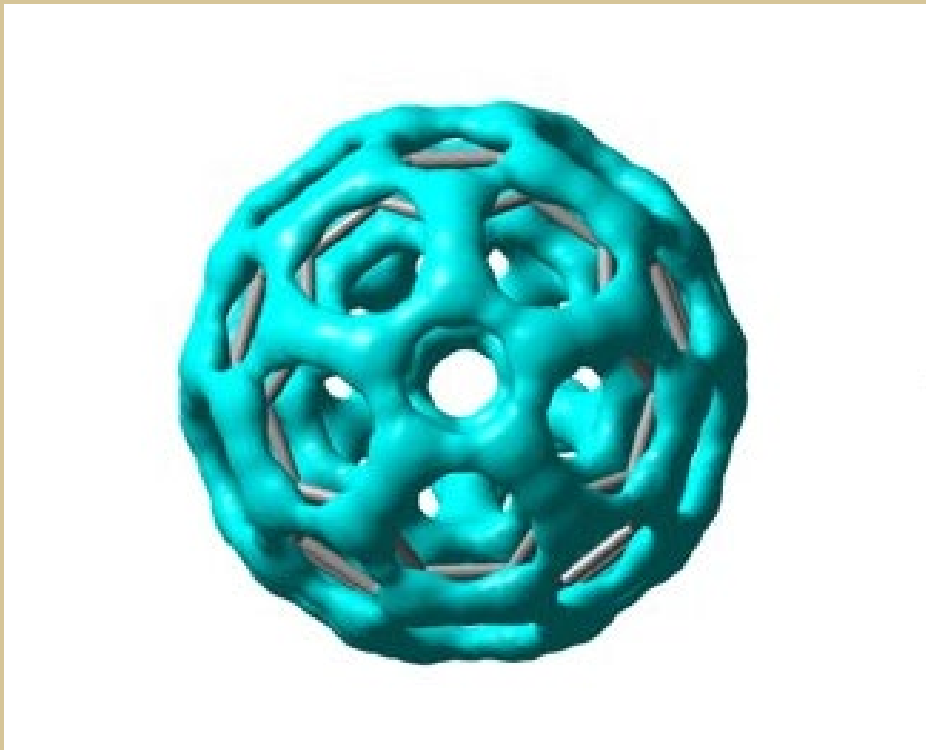
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# COMPARING $C_{80}$ CAPS LAPLACIAN

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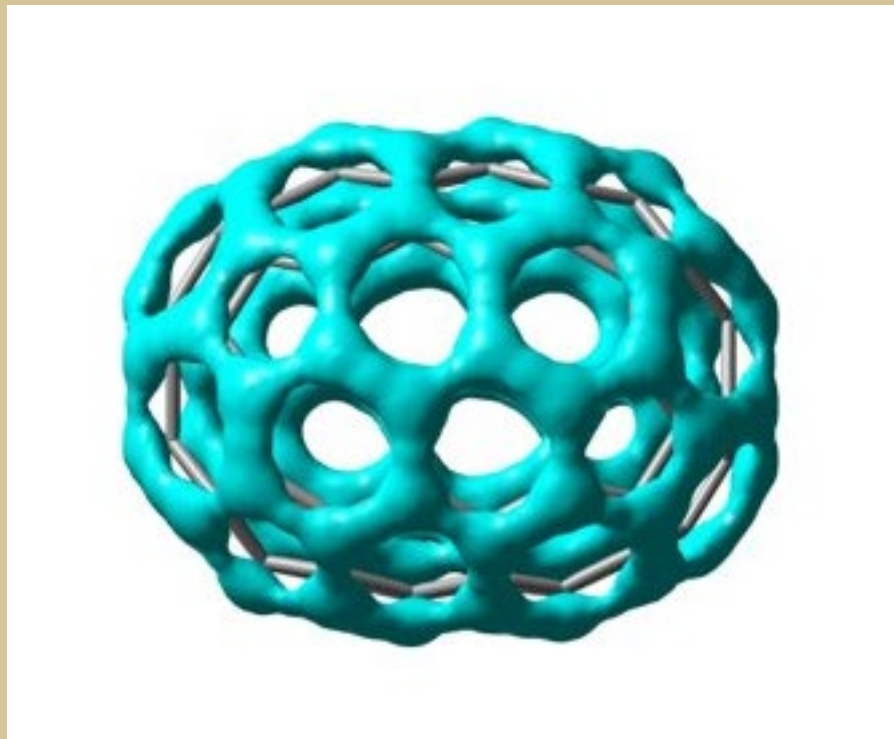
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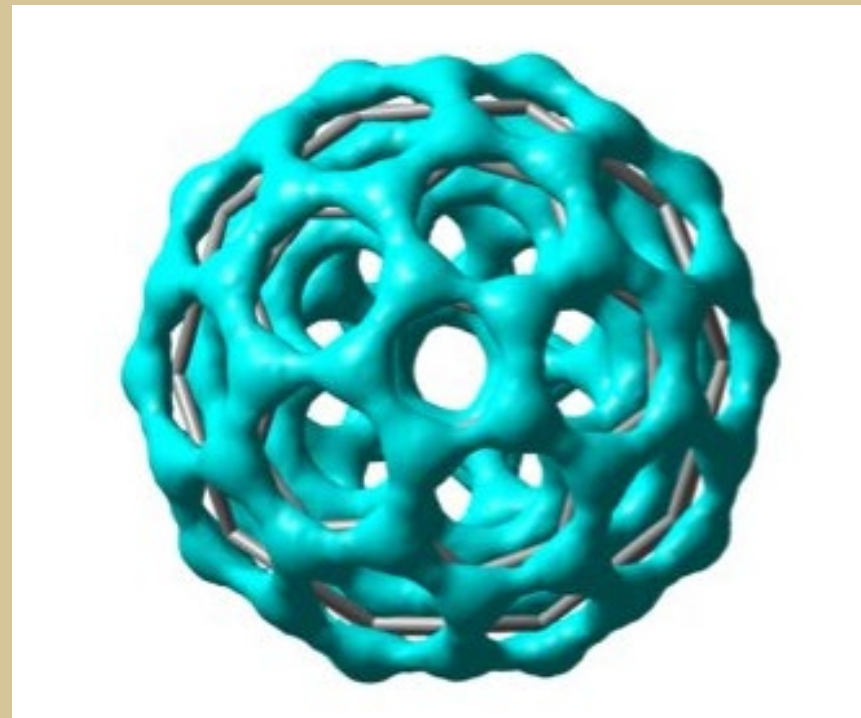


# COMPARING $C_{80}$ SIDES LAPLACIAN

[5,5]



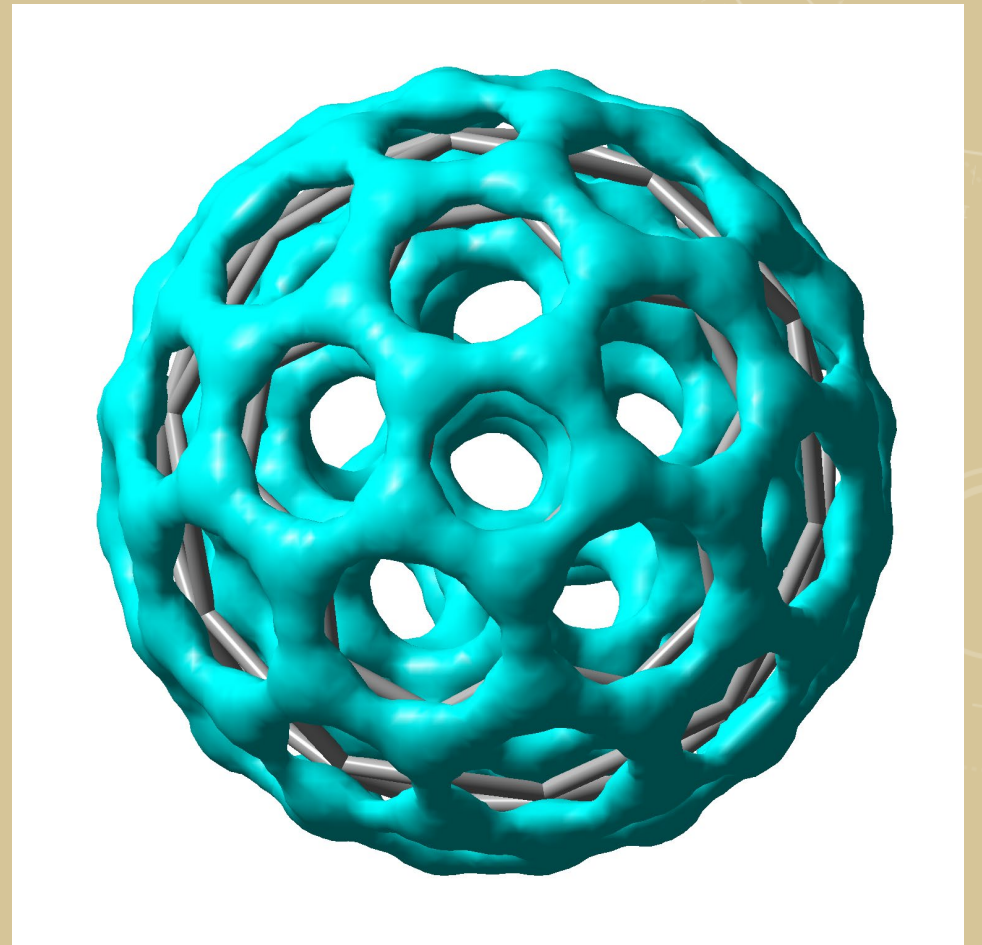
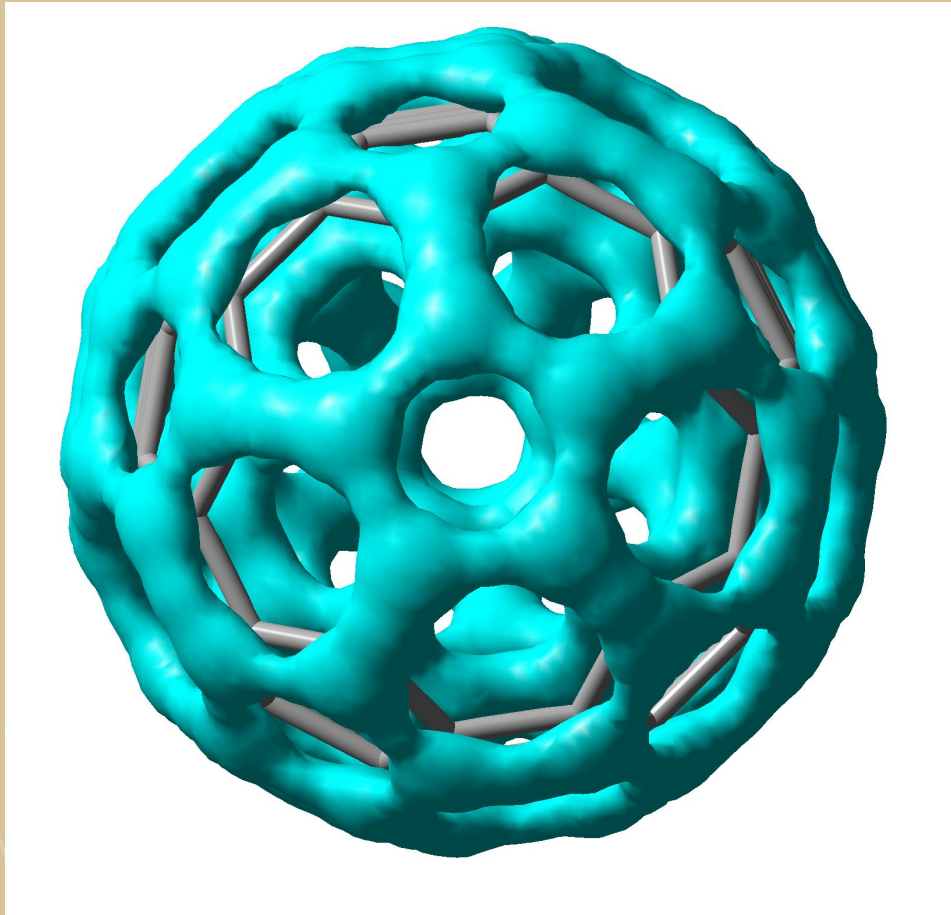
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COMPARING  $C_{100}$  CAPS LAPLACIAN

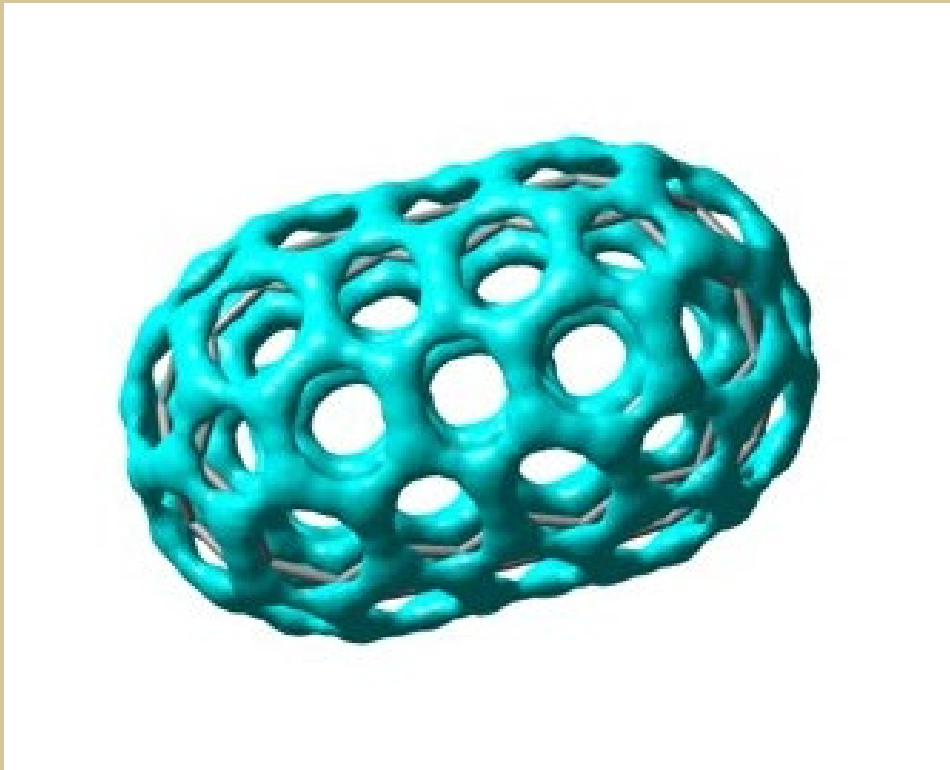
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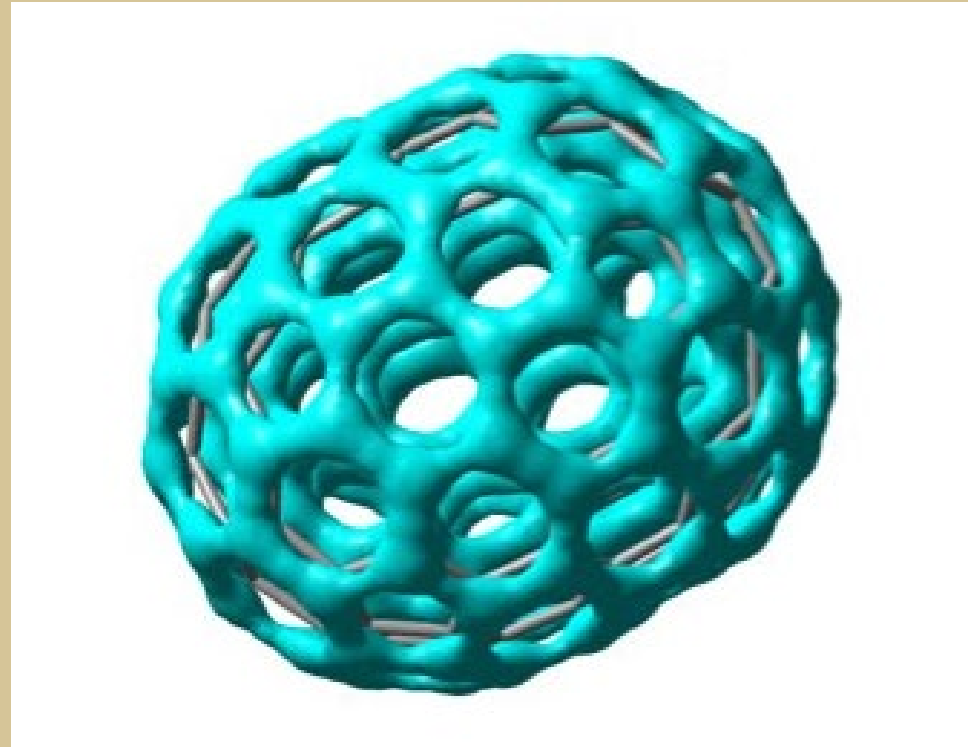


# COMPARING $C_{100}$ SIDES LAPLACIAN

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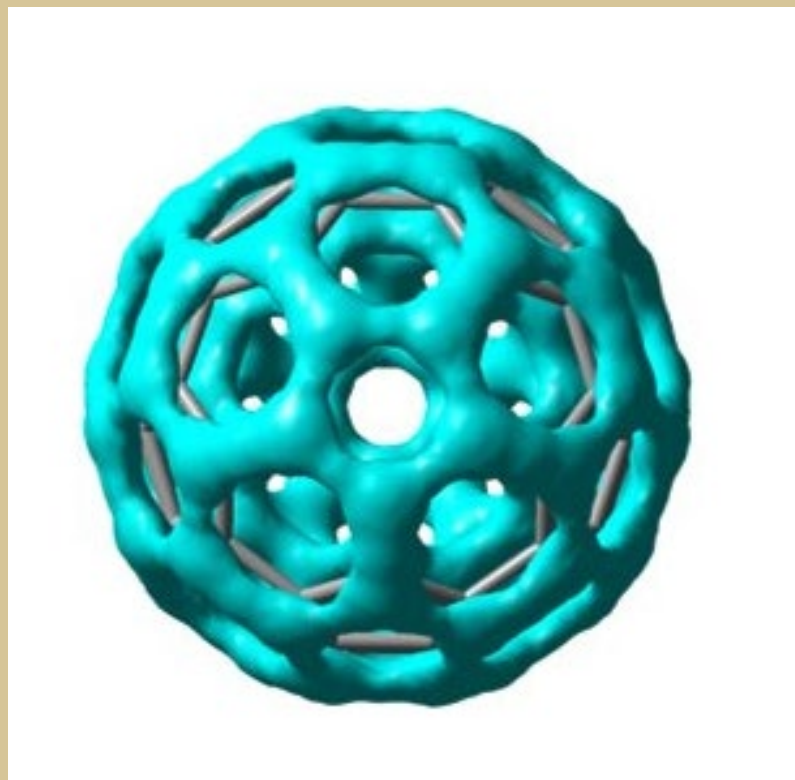


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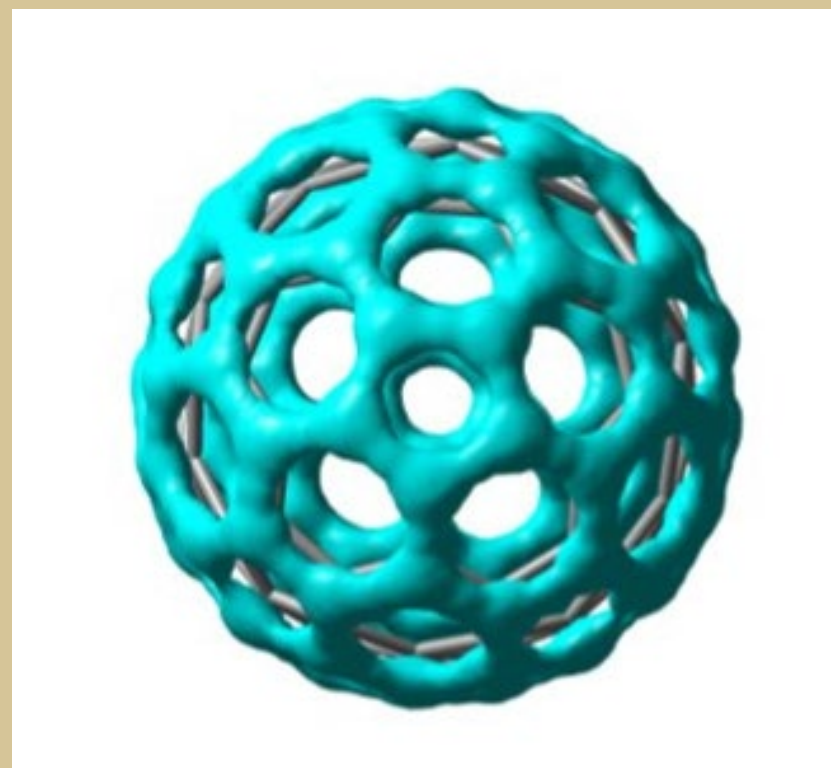


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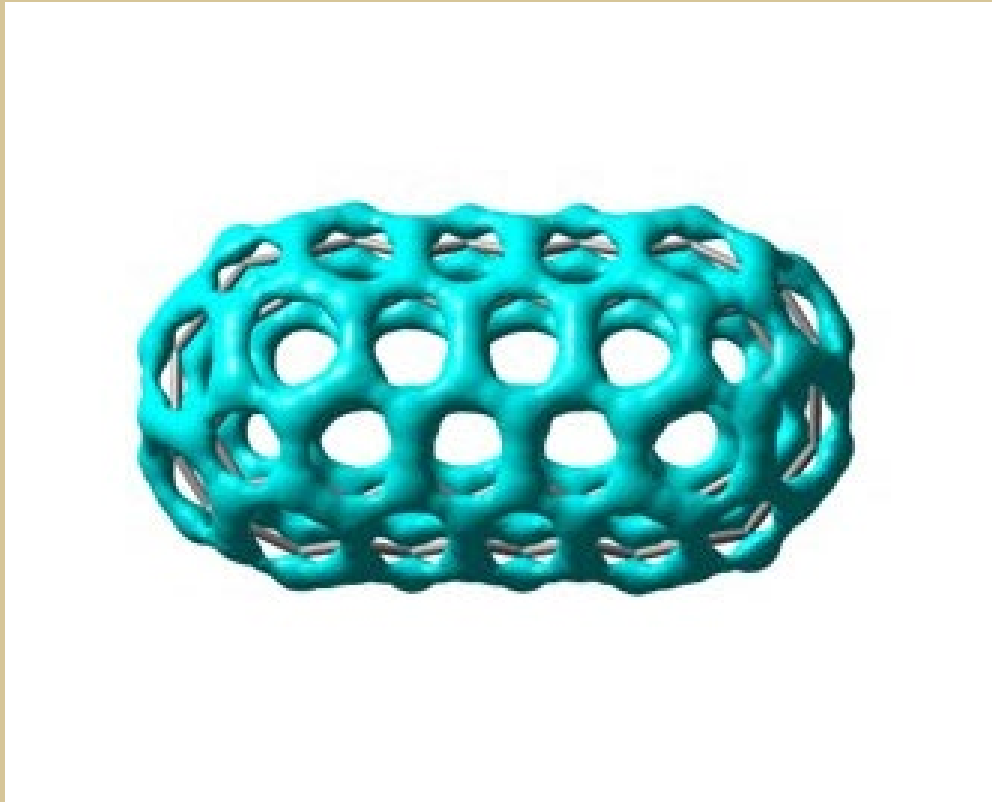


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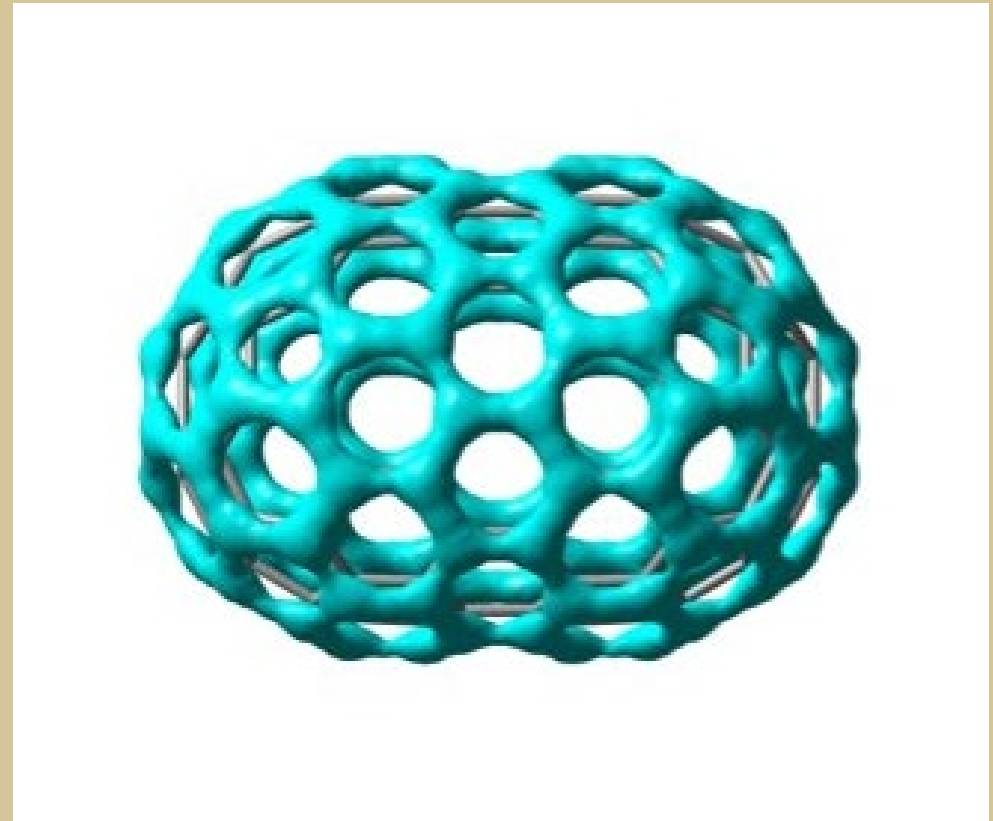


# COMPARING $C_{120}$ SIDES LAPLACIAN

[5,5]



[10,0]



# FUTURE DIRECTION

- We want to look in more detail at the individual pi orbitals on each molecule and in more detail at the Laplacians
- We will then redo the entire study looking at each molecules 6- ion to simulate an endohedral metallofullerene

# ACKNOWLEDGEMENTS

We would like to thank the following for this opportunity

- Dr. Fuhrer for allowing the opportunity for us to broaden our educational experience by participating in this research
- Radford University OURS program and Dr. Wirgau for making this trip possible
- The Dean's office of the artis college at Radford University
- The American Chemical Society for hosting the 73rd SERMACS meeting and allowing us to present today

# REFERENCES

- 1. Stevenson, S., et al., Semiconducting and Metallic [5,5] Fullertube Nanowires: Characterization of Pristine D5h(1)-C90 and D5d(1)-C100. *Journal of the American Chemical Society* **2021**, *143*, 4593-4599.
- 2. Kroto, H. W.; Heath, J. R.; O'Brien, S. C.; Curl, R. F.; Smalley, R. E., C60: Buckminsterfullerene. *Nature* **1985**, *318*, 162-163.
- 3. Jartín, R. S.; Cuesta, I. G.; Sánchez de Merás, A.; Lazzeretti, P., Can Aromaticity Be Connected with Molecular Polarizability? A Theoretical Study of Benzene Isomers and Five-Membered Heterocyclic Molecules. *Journal of Computational Methods in Sciences and Engineering* **2004**, *4*, 665-676.
- 4. García Cuesta, I.; Sánchez Marín, J.; Bondo Pedersen, T.; Koch, H.; Sánchez de Merás, A. M. J., Variation of Polarizability in the  $[4n + 2]$  Annulene Series: From [22]- to [66]-Annulene. *Physical Chemistry Chemical Physics* **2008**, *10*, 361-365



The background is a solid light beige color. On the right side, there are faint, light-colored circular patterns. One prominent pattern is a large circle with a scale around its perimeter, ranging from 0 to 200 in increments of 10. There are also smaller concentric circles and dashed lines with arrows indicating rotation or movement. The word "Questions?" is centered in a dark green, sans-serif font.

Questions?

# Exploring Interactions Between Land Use Type, Nest Predators, and Parental Behavior in Cavity Nesting Species

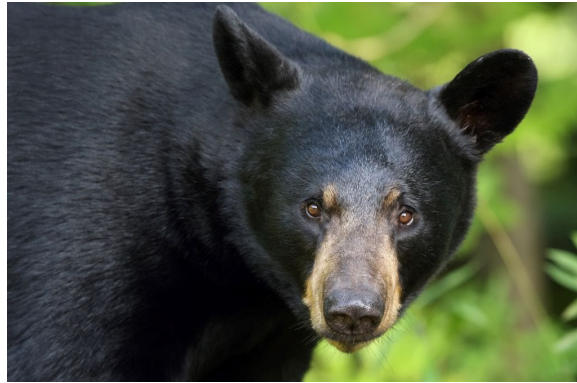
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MARCELLE GRAY & DR. SARAH FOLTZ



# What Would You Do?

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# How Do Animals Cope with Home Invasions?

- **Aggression**
  - Dives
- **Warning**
  - Alarm Calls, Beak Clicks, etc.
- **Diversion**
  - Reduced Feeding Visits
  - Nestlings Change/Stop Calls
- **Hiding**
  - Cover/Hide Nest
  - Make Nest Hard to Reach
- **Weighing Their Options**
  - Decide When to Abandon the Nest

Why is this  
Important?

## Helps Us Understand:

- Impact of environmental factors on different species
- Nest survival rate variation
- Impact predators have on breeding success/population size

# The Bird Species of this Study

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Eastern Bluebird  
-Not Migratory



House Sparrow  
-Not Migratory



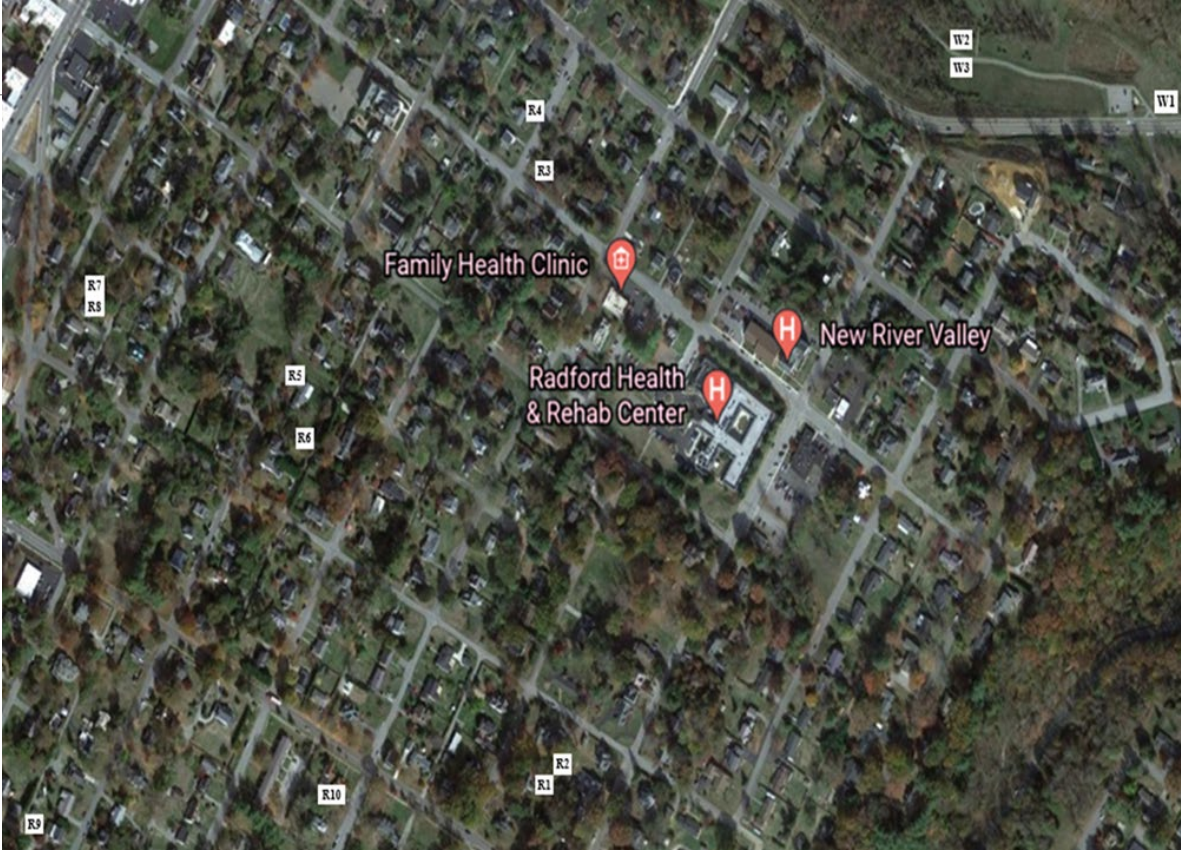
Tree Swallow  
-Migratory

- All of these species:
- Are cavity nesters
  - Breed simultaneously

# Land Use Types



Selu Conservancy  
(Rural)



Residential Neighborhood  
(Suburban)



Selu Conservancy  
(Rural)

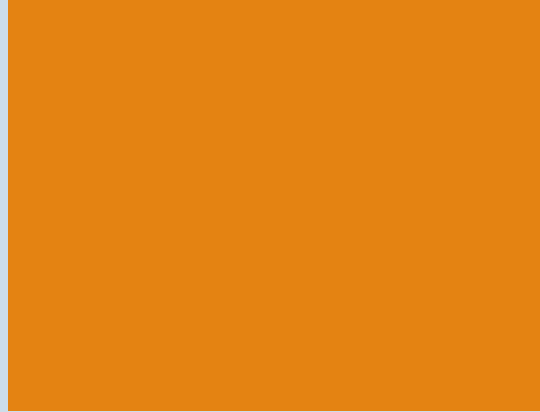


Residential Neighborhood  
(Suburban)



## Our Hypotheses

- 1) Predator types and abundances will differ between locations
- 2) Parents at nests with more predator visits will be more aggressive
- 3) Responses will vary across species



# Methods

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Checked boxes tri-weekly

- Mid-March to Mid-August

Recorded status of box

- occupancy, species, nest stage

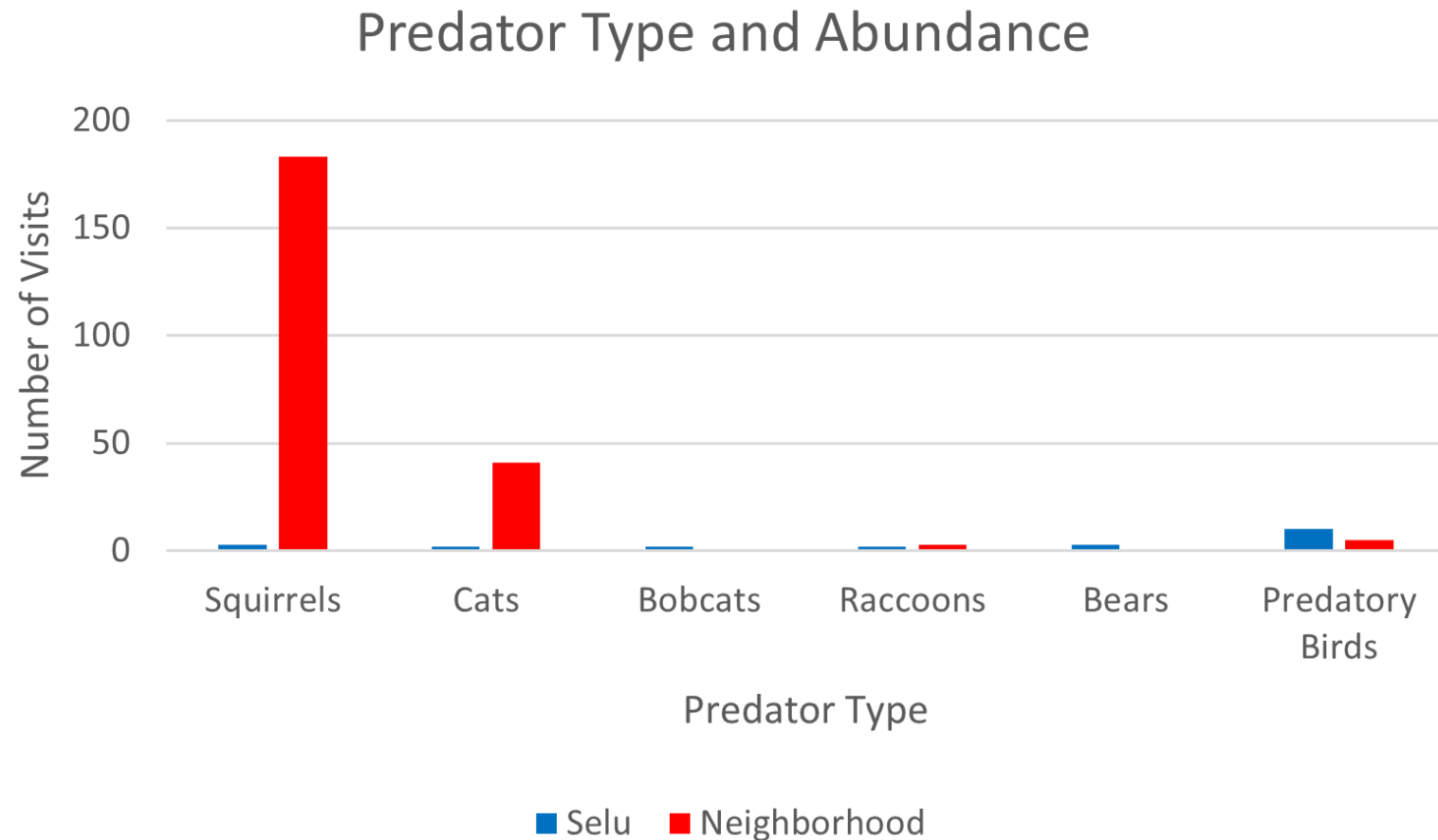
Verbally recorded parent behavioral responses to our visits

- 1 minute period
- Looking for three behaviors: dives, alarm calls, beak clicks

Set up trail cameras to detect predators' activity in the box area

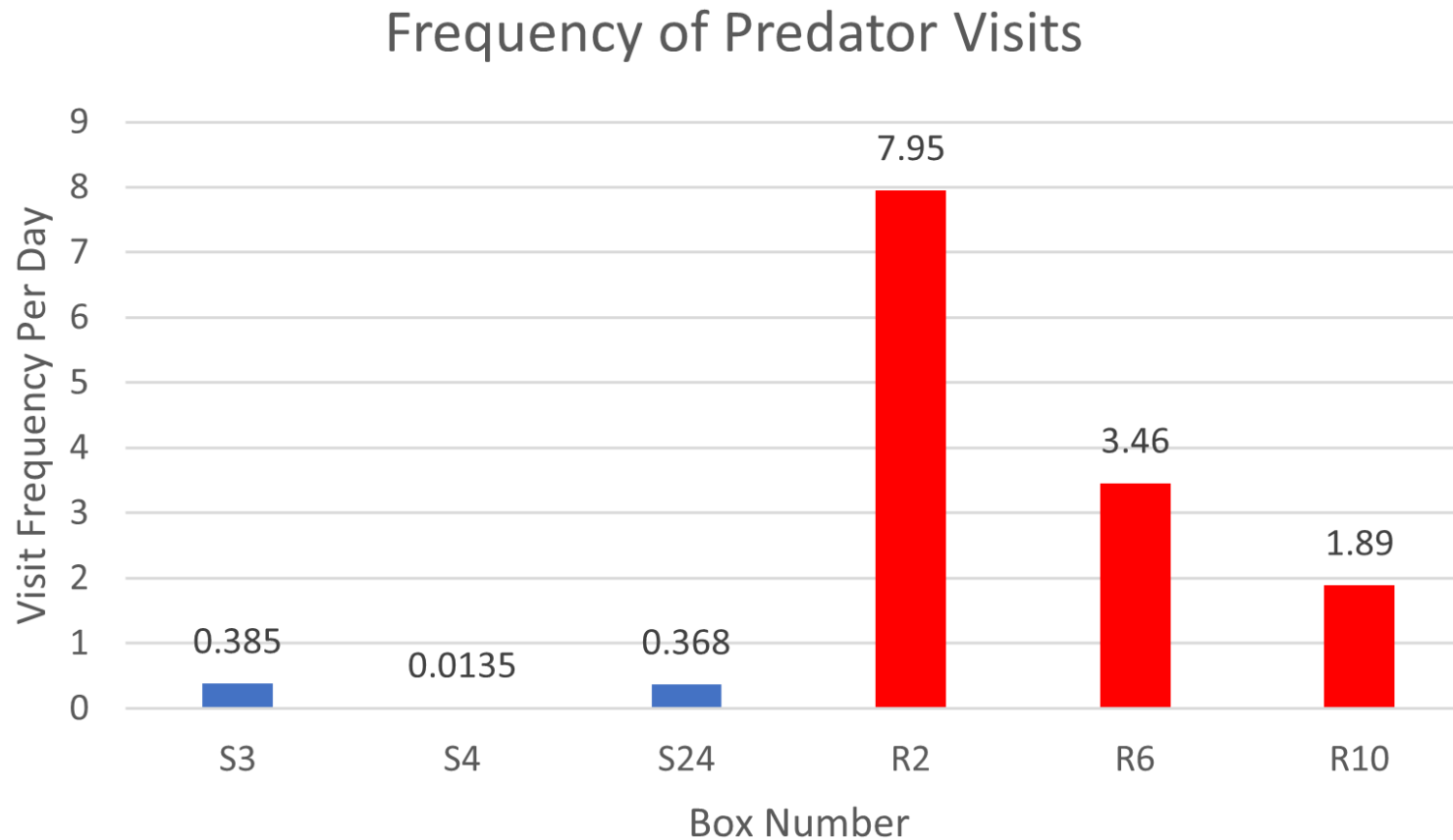
Results:

# Sites DO vary in both predator species and abundance



Results:

# Sites also vary in frequency of predator visits



We are continuing to analyze data on parental behavioral responses

## Conclusions

- Differences in predator types, abundances, and visit frequency may translate to differences in predation risk across habitats
- Parents may face tougher choices when nesting in neighborhoods than at rural sites
  - How much and when to feed
  - How much energy to invest in defending the nest

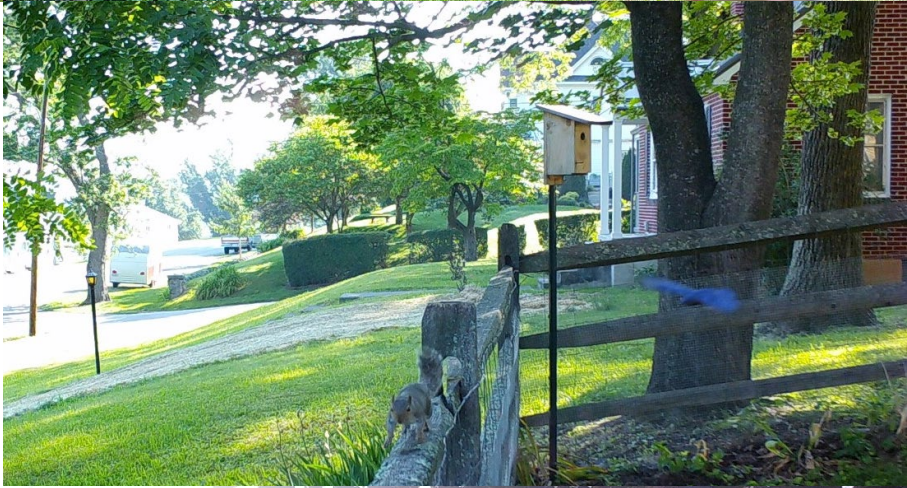
## Future Directions

- Include other species of cavity nesting birds
- Incorporate other land types
- Add more boxes to increase sample size





Questions?





End of Board of Visitors Materials

