

State of the Department: Looking Back and Moving Forward

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Department of Pathology, Atrium Health Wake Forest Baptist

February 15, 2023

Outline

- Looking Back On 2022
 - Research
 - Education
 - Clinical
 - Our People
 - Integration
- Going Forward In 2023

Research

- Extramural Funding (NIH and Industry)
 - \$13.7 M
 - \$11.9 M in grants
 - \$1.8 M in Contracts
 - PIs



Mark Baxter



Mark Cline



Matt Jorgenson



Kylie Kavanagh



Matt Quinn



Tom Register



Carol Shively



William Harrison

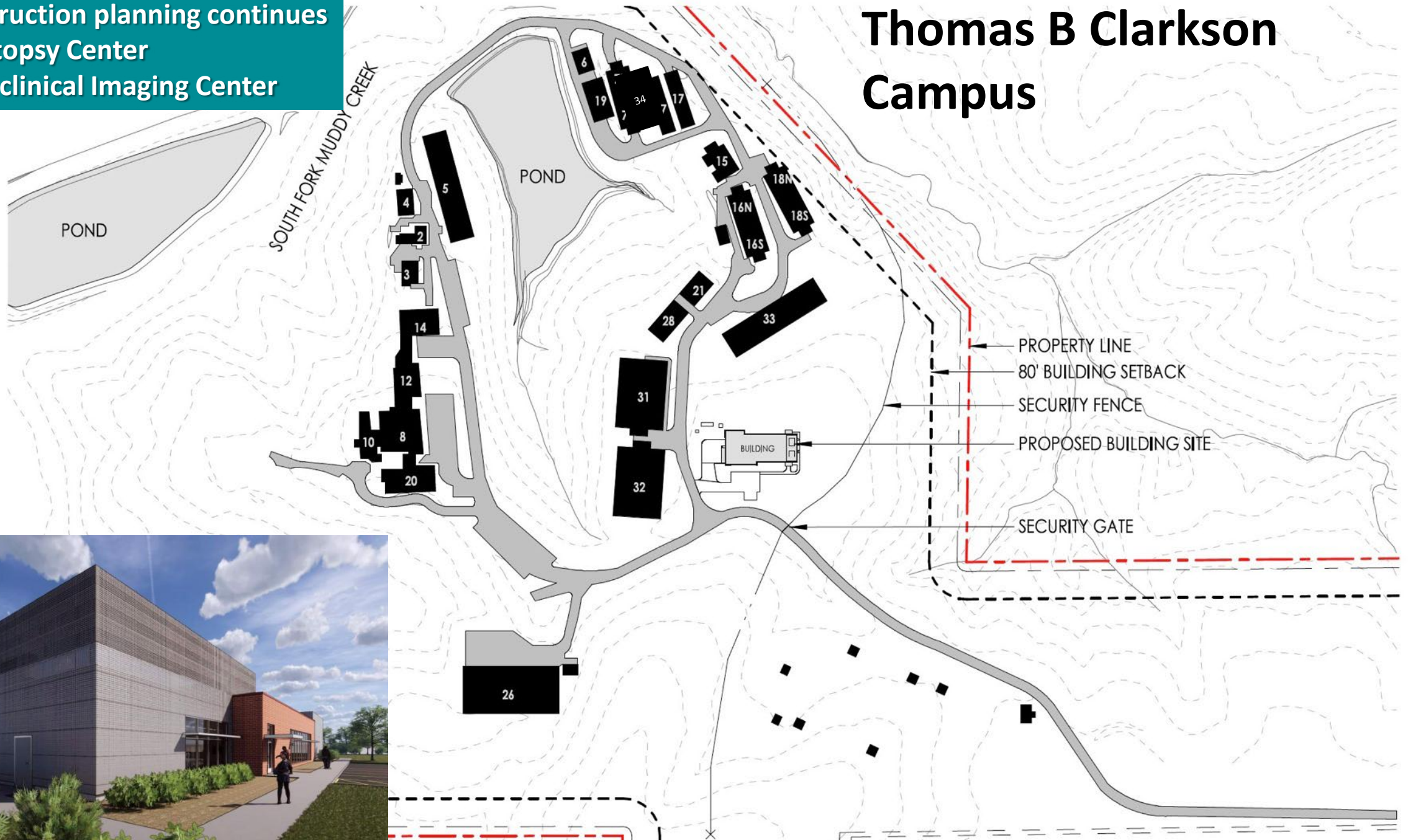


Eric Hsi

Construction planning continues

- Autopsy Center
- Preclinical Imaging Center

Thomas B Clarkson Campus



Research

- Publications (academic year) –
 - 103 manuscripts published
 - Publications highlight the basic science, translational, and clinical research interests of the faculty
 - High impact journals (IF ≥ 6.0)
 - Mod Pathol, Blood, eLife, J Am Heart Assoc., JCI Insights, Blood Advances, Geroscience, Clin Cancer Res, Frontiers in Immunology, Science Advances



Research

- Research Awards!
 - Carol Shively, 2022 Established Investigator Award
- Recruitment:
 - **Mark Baxter, PhD** – Professor
 - Neural mechanisms of memory and cognitive function.



Education – The Next Generation

- Our AP/CP Residency Program - the core of our educational efforts
- Pathology residents - an integral part of our clinical and academic programs
 - Hail to the chiefs:
 - Heath Blankenship and Martin Burks
 - Alex Balmaceda and Azad Bakht
 - The “A” team
- Program Directors:
 - Dan Coldren



Mark Giffen (Assist)



Laboratory Animal Medicine Residents

- Allison Tomasino, DVM
 - Second year



- Yarines Gonzalez-Rodriguez, DVM
 - First Year



Melaney Gee, DVM, DACLAM
Program Director

Comparative Medicine T32 Postdoctoral Fellows



Brendan Johnson, DVM
*Neuroimaging and
Cognition*



Kendall Langsten,
DVM, DACVP
Breast Cancer



Cecilia Schaaf, DVM, PhD
*Intestinal Epithelial
Biology*



Mark Cline, DVM, PhD, DACVP
Program Director

Veterinary Anatomic Pathology Residents



Emily Mackey, DVM, PhD
• 2nd year resident



Amanda Duggan, DVM
• 1st year resident



Nancy Kock, DVM, PhD,
DACVP
Program Director



Wake Forest University
School of Medicine



Atrium Health
Wake Forest Baptist

Comparative Medicine Research Fellows



Dr. Sc. Nat. Simon Deycmar

- ROCHE Postdoctoral Fellow in Cancer Immunotherapy
- Cline Lab



William Shane Sills, DVM, DACVP

- Research Fellow
- Comparative Oncology and Immunology
- Cline Lab



George W. Schaaf, DVM, DACVP

- Research Fellow
- Radiation Late Effects
- Cline Lab



Courtney Lynn Sutphen, PhD

- Research Fellow
- Alzheimer Fluid Biomarkers
- Register Lab



Ravichandra "Ravi" Vemuri, PhD

- Research Fellow
- Microbiome and Metabolism
- Kavanagh Lab

Education and Trainee Kudos

- Resident teaching awards went to **Dr. Haiyan Lu**



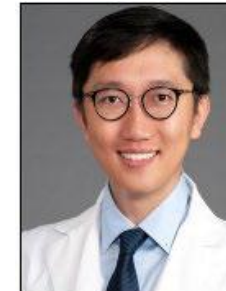
- **Martin Burks** - CAP Economic Affairs committee as a junior member



- **Alex Balmaceda** - appointed to the CAP Hematology and Clinical Microscopy Committee as a junior member



- **Shou Niu** – Education Committee, Digital Pathology Association



Residents/Fellows Out and About

- Presentations at National Meetings

- Martin Burks:

- Impact of Digital Pathology and AI on the AP Lab (National Medical Association)

- Mernoosh Ghandili:

- Novel Hybrid Mutation of a RHCE Genotype in a Family Discovered After Investigation of anti-Rh46 (CAP '22 Annual)
 - Sudden Cardiac Death (2022 Western NC Death Investigator Conference)

- Lorena Costa:

- Case report – GA in a 2 year old male (2022 American Society of Dermatopathology)

- Addie Hancock:

- False Positive Rate for Suspected Drug Related Deaths Following Full Autopsy (NAME 2022)
 - Two Bullet Wounds: One Bullet: (NAME 2022)

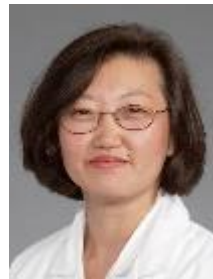
- Christopher Humphries (HP fellow)

- Primary CNS ALCL (USCAP 2022)
 - LRF National Lymphoma Rounds



Anatomic Pathology Accomplishments

- Welcomed High Point Pathologists
 - Drs. Oaks, Fancey, and Croitoru
 - Coverage with Drs. Kim Shapiro and Hernandez
- Subspecialty sign out on the main campus
 - An evolving process
 - Thanks to all the AP faculty and operations team for making this a reality
- Interim AP co-directors: Lisa Kim-Shapiro and Ruth Lininger

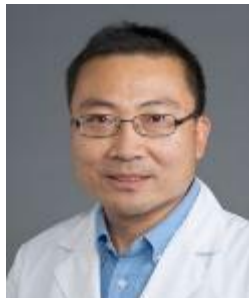


Anatomic Pathology Accomplishments

- New equipment:
 - Dako, Ventana Benchmark, 5th Leica Bond III Automated Immunostainers



- New tests: 10 new immunostains (on top of 9 in 2021)
 - SATB2, INSM1, P120, STAT6, IgG, IgG4, CA IX, TIA1, Perforin, Claudin-4



Dr. Wencheng Li



Dr. Danielle Maracaja

Clinical Pathology Section Highlights

- Chemistry

- Core Lab – New AU5800 chemistry and Dxl immunoanalyzers and automation line

- Completed validations!
 - Water “intrusion” due to aging DI system
 - Major problems with DXI reliability
 - Kudos: Erica VanDyke, Johanna Walton, Julie Simmons, Dr. S.
 - Dec 2022/Jan 2023 – marked improvement in TATs



Alina Sofronescu, PhD

- Chemistry - New tests (partial list)

- MMA, gentamicin, estradiol, progesterone, DHEA, pleural fluid pH, SHBG, CA125, AFP

Clinical Pathology Section Highlights

- HLA -
 - Supporting Atrium Charlotte with high resolution HLA typing
 - BMT Chimerism studies transferred
 - MiSeq for capacity and back-up
- Hematology
 - TEGS went live!
 - Improvements in protein electrophoresis and Hgb s/o
 - CellaVision went live!
- Flow cytometry – New BD Lyric 12 color



Dr. Michael Gautreaux



Dr. Nancy Rosenthal



Dr. Michael Beaty



Dr. Insuasti



Clinical Pathology Section Highlights

- Molecular Diagnostics (Lyalin/Insuasti/Giauque/Taghiyev/Arispe)
 - Biodot evaluation - automation
 - Continued integration and restructuring under main CLIA
 - Discontinuation of prenatal serum screening
 - DuoSeq NGS validation – novel DNA/RNAseq for lymphoma
 - Genexus NGS panel for myeloid malignancy
 - Substantial cost savings, far superior TATs
 - MolDx codes received – enables insourcing and external new business (Novant)
 - Movement of HPV testing to Microbiology
- Microbiology
 - 2nd Roche Cobas 6800 successfully obtained and validated
 - HPV and other new testing, COVID
 - Redundancy and capacity
 - Decompresses PCR lab in AP
 - Interim Medical Director, core lab CLT



Dr. Lyalin



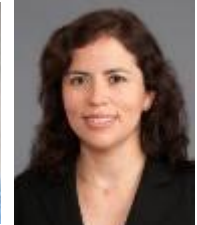
Dr. Insuasti



Dr. Giauque



Dr. Taghiyev



Dr. Arispe



TBD



Dr. Palavecino



Clinical Pathology Section Highlights

- Transfusion Medicine/BMT
 - 35,048 units transfused, a 7.37% decrease
 - Major driver was fewer MTPs with fewer units/MTP
 - Patient Blood Management data collection begun
 - Anemia Management – program planning with 2023 implementation
 - Enterprise Advisory Committee formed – Royster, Weiss
 - Blood bank services opened at Davie Hospital
 - Began whole blood transfusions
 - Chilled Platelet Study (CHIPS) opened (TM and Cardiac Anesthesia co-PIs)
 - Phase 3, multicenter, randomized, double-blinded, non-inferiority, trial that will compare the transfusion of cold-stored (4C) platelets at multiple storage durations to standard (22C) platelets



Dr. Fadeyi



Dr. Maracaja



Dr. Pomper



Our People: Faculty Promotions in 2022



Susan Appt, DVM
Professor (with tenure)



Kylie Kavanagh, VMS, MPH
Professor (with tenure)

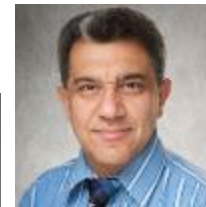
Our People

- Faculty

- Retirements – Dr. Cohen (Professor Emeritus)
- Resignations 2021 – Dr. Koty, Dr. Kleven, Dr. Parks, Dr. Steele

- AP/CP Recruitments –

- Dr. Ruth Lininger – Jan. 2022
- Dr. Yanjun Hou – April 2022
- Dr. Anne Shepler – May 2022
- Dr. Zahra Aly – June 2022
- Dr. Jesus Hernandez – July 2022
- Dr. Karen Arispe – August 2022
- Dr. Taghiyev – July 2022
- Dr. Giauque – October 2022



- More to come.....



Our People – Service and Influence

- National Committee Chairs 2022
 - Hou – Finance Committee Co-Chair, CAPA
 - Hsi – ALLIANCE Pathology Committee, CAP Hematology and Clinical Microscopy
- Society/Academy Officers
 - DeLoid – President of the Academy of Surgical Research
- Editorial Boards
 - Appt, Beaty, Caudell, Cline, Fadeyi, Gautreaux, Hsi, Kavanagh, Palavecino, Pomper, Quinn Sanguenza, Sofronescu,
- Course Faculty National Meetings
 - Hsi, Pomper



Our People – DEI Task Force

Mission: To create an environment that values diversity and promotes a culture of inclusion and respect among all employees within the Department of Pathology

- Chairs: Susan Appt, Comparative Medicine, Danielle Maracaja, Clinical Pathology & Anatomic Pathology
- Initiatives: Education and training, Suggestion Boxes, Survey, Newsletter
- We need you!

Pathology and Laboratory Medicine Leadership Council Structure

Enterprise Service Line Leader
Dr. Eric Hsi

Enterprise Academic Chair
Dr. Eric Hsi

Enterprise **Pathology & Laboratory Executive** Council

Chair: Dr. Eric Hsi and Gary Catarella

Members: Dr. Ned Lipford, Dr. Gene Battles, Lauren Elmore, Conrad Emmerich, Regina Nowell, Mike Waid, Michael Hajworonsky

Workgroups

Operations
Chair: Gary Catarella

**QA/QI/Safety/
Accreditation**
Chair: (TBD)

Workforce (TBD)

Billing & Compliance
Chair: Heather Cote

Lab Medicine
Chair: Greg Pomper

Pathology
Co-Chair:
Eric Hsi, Ned Lipford

Research
Chair: Sue Appt

Education
Chair: Nancy Rosenthal



Operational within first 90 days

Integration Accomplishments

- Specific workgroups were actively working in 2022
- AP/Research –
 - 8 consensus conferences running
 - 4 abstracts submitted to USCAP in 2022 and 3 accepted for 2023 meeting
 - Subspecialties are discussing EPIC Harmonization in consensus conferences
- AP Digital Pathology – Site Visits, Exec Leadership Strategy
- Chemistry – Mass Spec, insourcing of drugs of abuse confirmation at WF
- Education -
 - Working with Carolinas Health Sciences Program in CLT to bring students to WF (in process with more in the pipeline)
 - Planning stages of a NC CE/CME course, AHEC CLT Support, Atrium Sponsorship (Catarella)

Integration Accomplishments – Enterprise Tracker

Gary Catarella

- Twelve Initiatives Completed
- Testing Internalization Strategies Deployed, Outreach Billing Enhancement, Equipment & Service Optimization
- 2022 Cost savings = \$3,024,752
- 2023 Initiatives Identified
 - Expansion of Drugs of Abuse Testing
 - Patient Blood & Anemia Management
 - New Internalization Strategies Identified



Discovery Team Leaders

Laboratory Services



Dan Mumm

President ACL Laboratories

Years with Organization: 31

Legacy Organization: Advocate Aurora Health



Gary Catarella, MBA MT (ASCP)

Enterprise VP, Laboratory Services

Years with Organization: 9

Legacy Organization: Atrium Health

Laboratory Services Synergy Roadmap

Together we are **one of the largest non-profit health system laboratories in the country**

Learnings about Advocate Aurora Health	Learnings about Atrium Health	TOGETHER WE CAN
<ul style="list-style-type: none">Technology and processes are standardized, resulting in efficienciesRobust test menu results in decreased dependency on reference testingIn-sourced courier services helps drive client and consumer experienceAdvantageous for-profit outreach business model (A2CL): established in the market	<ul style="list-style-type: none">Enterprise shared service that operates in a hub & spoke lab model in all regions & marketsNationally recognized faculty in clinical & anatomic pathologyPathology Residency & Fellowship ProgramNational Institute of Health grant-funded research – Comparative Medicine Program	<ul style="list-style-type: none">50M tests per year to diagnose, drive outcomes and enhance patient experience, generating \$1.5B Net Revenue (inclusive of \$107M outreach revenue)Provide more affordable lab testingExecute robust in-source strategy by leveraging cross-region laboratory medicine & pathology expertiseRevolutionize our lab outreach business in the markets and regions we serveAccelerate laboratory automationTrain the next generation of laboratorians
Shared focus on operational efficiencies & leveraging scale We are more alike than different!		

We have identified nearly **\$23M** in synergy opportunities by the end of Year 3, with **\$8.6M** by end of Year 1



2023 – What's Next (AP)

- Recruitment – Haodong Xu arrives Feb. 20, other recruitments continue...
- EPIC Harmonization
 - SME will be in work groups reviewing workflows in Encompass
 - Pathologists can engage CPG pathologists to see how cases are signed out, stains ordered, templates (standardization)
 - If there are potential problems in workflow, engage Nate Weaver and LKS, Julie Simmons (CP)
- Complete planned consensus conferences
 - Will be tasked with best practice PathCare documentation and implementation (Standardization)
 - Each consensus conference to consider collaborative research projects
- Digital Pathology – Enterprise strategy is being developed
 - Use cases to be prioritized, implementation of IHC delivery by digital pathology
 - Capital planning
 - Eprelia FDA Clinical Trial (joint WF/HP/CPG pathologists effort) – Q2 start

2023 – What's Next (CP)

- Molecular Diagnostics
 - Strategy for germline genetic testing and Molecular Oncology WES/WGS
 - IPAT business plan for NGS to support myeloid panels for CPG and Novant
 - DuoSeq validation with BIQSF funding for NCTN Intergroup phase 2/3 trial in DLBCL
- Chemistry
 - IPAT business plan for mass spectrometry COE to include faculty and testing personnel
- TM, Molecular, and Microbiology Workgroups Chartered and begin meeting
 - PBM/AM
 - Standardization vs Centralization
 - Enterprise strategy for automation in microbiology
 - Coordination of molecular diagnostics testing



2023 – What's Next

- Space Planning
 - Continue Autopsy Center and Preclinical Imaging Center
 - Working with Executive Leadership to determine next steps and capital planning
- Education
 - Complete planning for CE/CME course
 - Topics/faculty invitation/advertising
 - Secure funding
 - Date TBD (Q4 2023, Greensboro, NC)
 - Explore development of an elective rotation for residents at CMC/Airport
- Sustainability
 - Form committee, engage consultant, and develop initiative(s) for implementation in 2023.

2023 – What's Next

- Integration
 - Southeast Region Retreat in WS planned for March 30th, 2023

Thank You!!!