A Photo Tour of

Atmospheric Science Teaching & Research @Physics, NC A&T State University

Facilities

Teaching & Research Facilities at Gibbs Hall

Faculty and Graduate Student Offices: The Gibbs Hall houses 6 faculty and staff offices, which include Dr. Schimmel (Dir., Applied Sci&Tech PhD Program), Mrs. Mayberry (Exec. Assis., AST), Dr. Bililign (Professor), Dr. Lin (Professor), Dr. Zhang (Professor), and Dr. Mekonnen (Asso. Professor), and 5 AST student offices and research lab (housing about 15 graduate students).

Gibbs 307 Teaching Lab has 24 workstations which serves as classroom for teaching and weather and climate analysis

Gibbs 307 Teaching Lab

also hosts large seminars

Workshop on Cloud Computing given by Dr. Jordan Powers and Ms. Kelly Werner from NCAR on Nov. 8, 2019

Conference Room (302K, Gibbs)

The conference room is used for small group meetings, seminars and classroom

Weather & Climate Modeling Lab @307 Gibbs Hall

(For numerical model simulations and teaching)

Weather Observatory Station on the Roof of Gibbs Hall

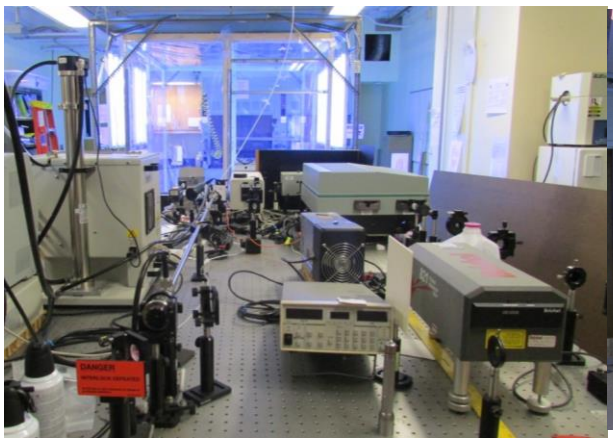
(Connected to a computer in Rm 307 for monitoring & forecasting weather)

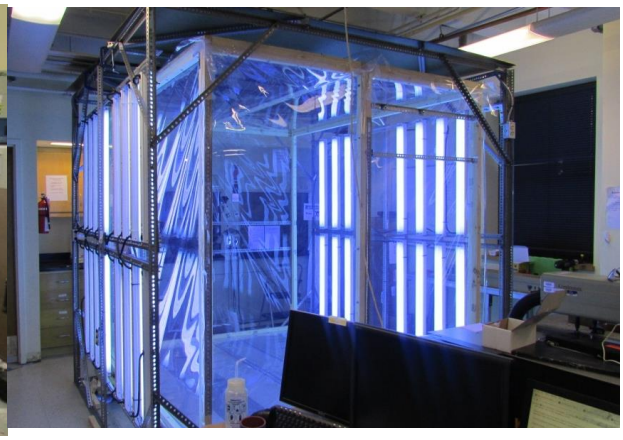
Research Facilities at Interdisciplinary Research Center

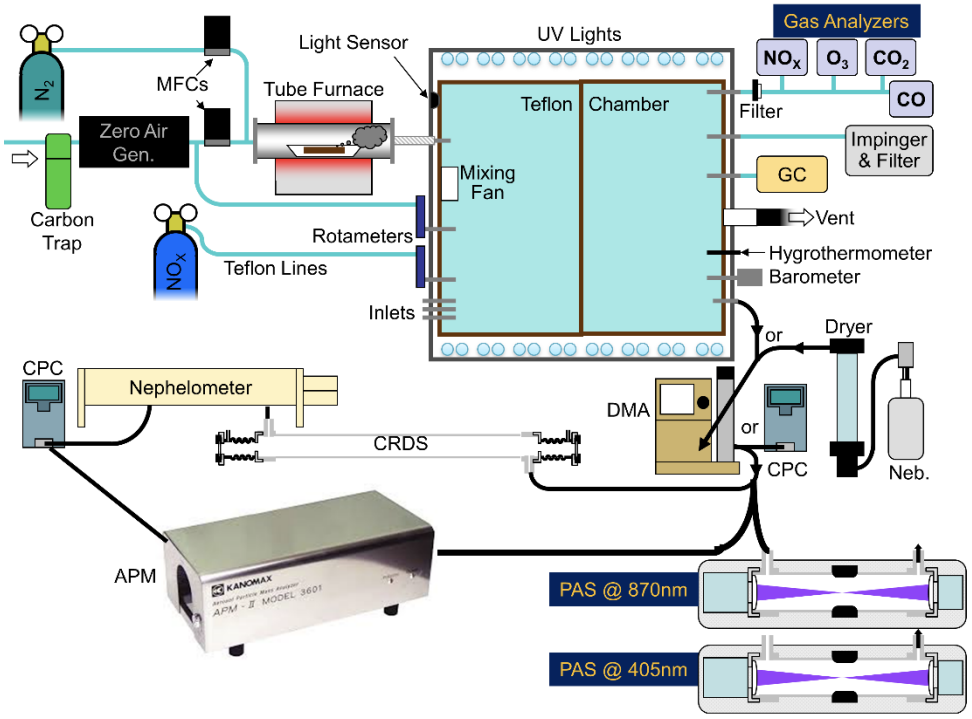
Air Quality Research Experimental Facilities

Radiative impacts of atmospheric aerosols and air quality research at NCAT uses a suit of advanced instrumentation including: cavity ring-down spectrometer, nephelometer, and scanning mobility particle seizer aerosol mass analyzer, several lasers and gas, analyzers (CO,CO_2, NO, NO_2,O_3), Nanosecond and picosecond YAG- Lasers, dye lasers and OPO's etc.

http://www.ncat.edu/cost/departments/phys/people/bililign/Research.html

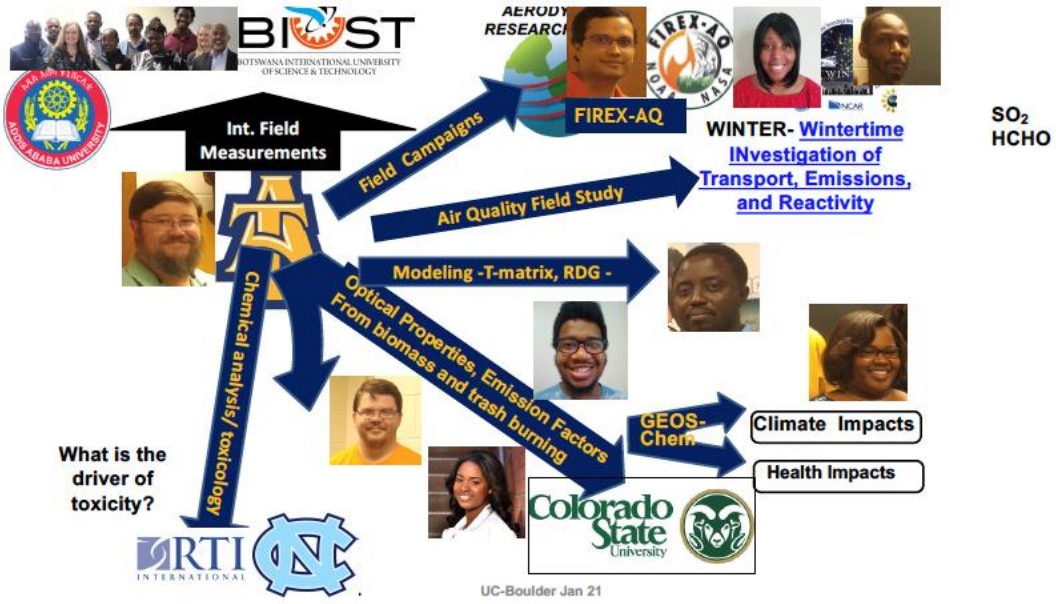






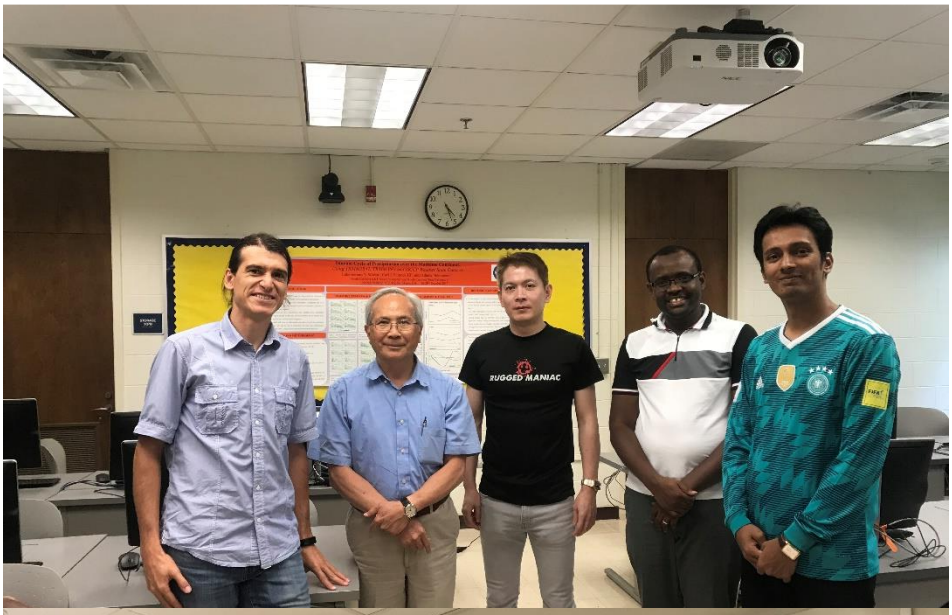
Atmospheric Science Student Activities

Dr. Bililign's Atmospheric Chemistry/Air quality group and activities



Seminar delivered by Dr. Gokhan Sever (left)

[An AST-PhD alumnus on Aug. 5, 2019]



Presentations @National Society of Black Physicist Conference

Justin Riley (AST-PhD, Phys-MS 15', ASME-BS 13')

NOAA EPP Student Scholar Activities

NOAA EPP Scholar

Presentation at DoD

Chanelle Stigger (ASME-BS, F16)

Zainab Ali (ASME-BS, S17)

Julian Gordon (ASME-BS, S17)

FRAPPÈ (Front Range Air Pollution & Photochemistry Experiment) Field Campaign

[left] Percy Williams, Alison Rockwell(NCAR), Sujeeta Singh, & Cameron Anderson at the open house for the FRAPPÈ (Front Range Air Pollution & Photochemistry Exp.) Field Campaign in Boulder CO (Summer 2014); [right] Percy Williams, Sujeeta Singh at the open house for the FRAPPÈ Field Campaign in Boulder CO explaining what we were doing to the public (Su 14')

16th NCEM Hurricane Workshop @ECU

Gökhan Sever (EES-PhD16') Rashad Johnson (Phys-MS16')
Tatiana Arivelo (Visiting Scholar) Shekia Brower (ASME-BS15')
Lee Armstrong (EES-PhD) Britney Hamilton (Phys-MS16')
Gian Villamil-Otero (EES-PhD16', Phys-MS13') Percy Williams (Phys-MS16', ASME14')
Jose Garcia (EES-PhD15', Phys-MS12')

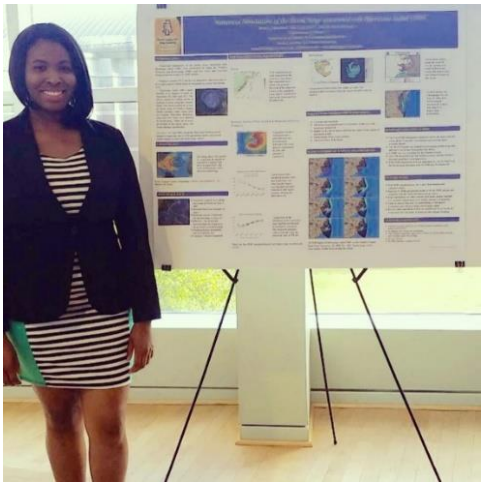
Setting up Weather Station on Gibbs Hall

Julian Gordon (ASME-BS)
Gökhan Sever
(EES-PhD16')

King Air in a NASA Field Experiment held in Appalachian Mountains

[left to right] Gian Villamil-Otero, Galen Smith, Dr. David Delene (NDSU), Dr. Yuh-Lang Lin, Gökhan Sever
Gian Villamil-Otero
(EES-PhD16', Phys-MS13')

Hurricane Workshop @ECU



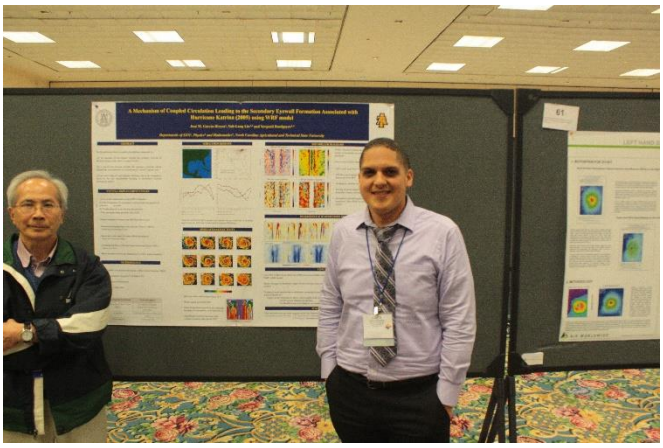
Britney Hamilton (Phys-MS16')

Britney Hamilton (Phys-MS16'), a broadcast meteorologist, at FOX in Charlotte, give a seminar @Physics Colloquium

Watching WX in Micronesia

Nimrod Micael (PHYS-MS14')

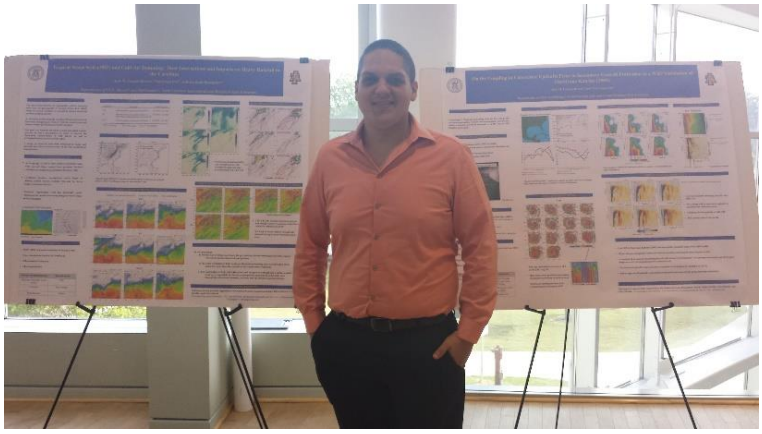
Poster Presentation at 2014 Hurricane Conference



Dr. Y.-L. Lin Jose Garcia (EES-PhD15', PHYS-MS12')

Visiting NWS @ Sterling, VA

Hurricane Workshop @ECU



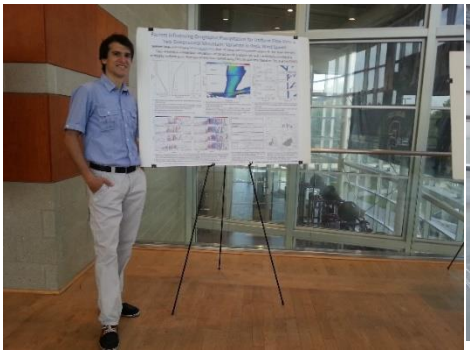
Jose Garcia (EES-PhD15', PHYS-MS12')

Hurricane Workshop @ECU

Gian Villamil-Otero (EES-PhD16', PHYS-MS13')

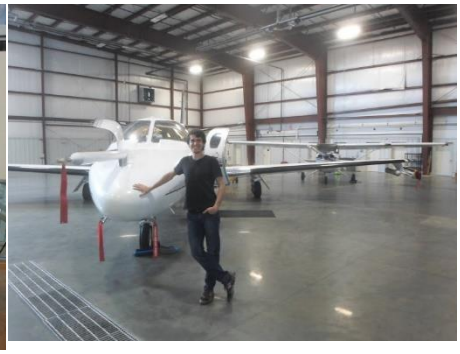
King Air for a NASA Field Experiment

Hurricane Workshop @ ECU



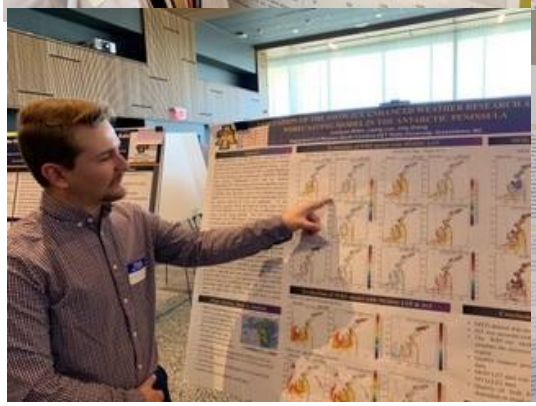
Gökhan Sever (EES-PhD16')

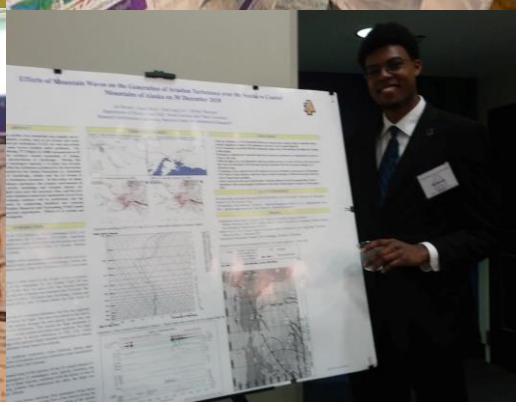
King Air in a NASA Field Experiment



Gökhan Sever (EES-PhD16')

Presentations in Undergraduate Research Symposium





Aniya Tyson (ASME-BS, F20)
Jackson Wyles (ASME-BS, S20)

Mariah Bush (ASME-BS, S20)
Ari Brown (ASME-BS)

Research at the MesoLab (MesoLab) Yuh-Lang Lin, Physics, AST

(A) Wildfire Dynamics

PI/Co-PIs: (NCAT) YL Lin, L Liu, (ERAU) ML Kaplan, D. Ivanova
Funding: NSF, $498,373 for 3yrs starting 6/1/19)
No. Students: 4 (with leveraging funds
Future direction: Expand the scope into economic impacts along with a USFS exploratory project (PI: Schimmel), in addition to science.

(B) Tropical Cyclone Dynamics

PI/Co-PIs: (NCAT) YL Lin, (UCD) SH Chen (CSU) M Bell, (NTU) Yang, & other PRECIP team members
Funding: NSF, $6,500 (seed fund)
No. Students: 2 (to participate in the PRECIP field experiment in Taiwan)
Future direction: The PI & Dr. Chen at UCD plan to submit a proposal to NSF for supporting scientific research.

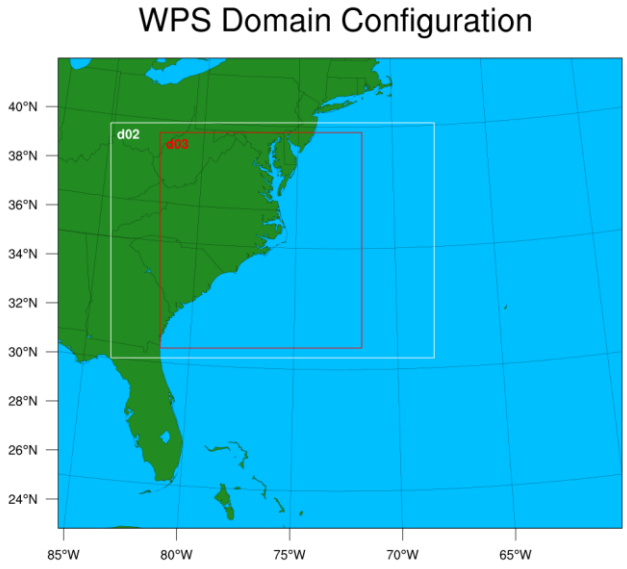
(C) NSF HBCU-RISE Center (Extreme Weather Center)

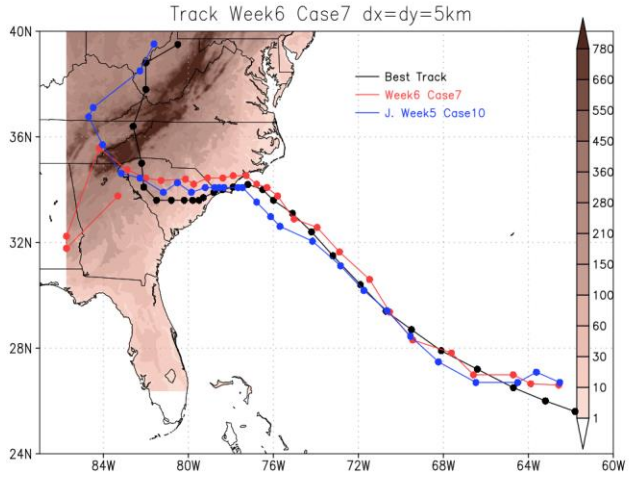
PI/Co-PIs: (NCAT) YL Lin, A. Mekonnen, J. Zhang, (ERAU) M. L. Kaplan
Funding: NSF, 3 yrs starting 4/15/21
No. Students: 4 PhD/MS, 4 BS
Future direction: 1. Orographic impacts on tropical cyclones, 2. Orographic influence on wildfires, and 3. Climate and orographic effects on TCs and wildfires.

(D) Other Research

(i) GeoPaths (PI: S Bililign, Co-PI: Lin, Zhang, Mekonnen, Jha) – See Bililign's 1-pager.
(ii) Orographic effects on an Madden Julian Oscillation
PI: YL Lin, Funding: A PhD student supported by Title III Fellowship
(iii) Aviation Turbulence
PI: YL Lin, Funding: UCAR (ended in 2018), 3 students involved.

An Example of Hurricane Florence (2018) Simulation





Animation of Hurricane Florence (2018) Movement and Associated Fields

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