Primary Publications

I am an author on more than 800 publications, listed <u>here on ORCID</u>. Below is a list of significant papers where I have made substantial contributions. Some are preliminary results released by ATLAS, referred to as Conference or Public Notes, and not published in a journal. In ATLAS, papers are developed by teams ranging from a few to more than 50 contributors; papers which I personally wrote or where I led the analysis team are indicated by *Editor*.

ATLAS Collaboration, "Search for nonresonant pair production of Higgs bosons in the $b\bar{b}b\bar{b}$ final state in pp collisions at $\sqrt{s} = 13$ TeV with the ATLAS detector", arXiv:2301.03212 (*Editor*)

- We presented the full run 2 search for non-resonant di-Higgs production via ggF and VBF production in the $b\bar{b}b\bar{b}$ final state
- We significantly improved our neural-network background modeling technique from the resonant publication
- We set first limits on SMEFT, and in ATLAS, on HEFT interpretations of our search
- We significantly improved upon past ATLAS iterations of the analysis
- I led the analysis, and my PhD student wrote his thesis on this topic
- Accepted by PRD

ATLAS Collaboration, "HL-LHC prospects for the measurement of Higgs boson pair production in the $b\bar{b}b\bar{b}$ final state and combination with the $b\bar{b}\gamma\gamma$ and $b\bar{b}\tau^+\tau^-$ final states at the ATLAS experiment", ATL-PHYS-PUB-2022-053

- We presented updated projects of the sensitivity of the $b\bar{b}b\bar{b}$ channel for di-Higgs production at the HL-LHC
- We presented several different background uncertainty scenarios, and quantified the sensitivity with different levels of analysis improvements
- We combined the results with the other most sensitive channels, leading to the most sensitive projections at the HL-LHC to date
- I supervised the MSc student and postdoc who performed the analysis and wrote the note

ATLAS Collaboration, "Point Cloud Deep Learning Methods for Pion Reconstruction in the ATLAS Experiment", ATL-PHYS-PUB-2022-040

- We updated our previous work to use new point and graph-based techniques to demonstrate deeplearning reconstruction of particles using the ATLAS detector
- We demonstrated that tracking information could be incorporated and smoothly included in energy reconstruction
- Our techniques significantly out-performed existing ATLAS reconstruction

ATLAS Collaboration, "Search for supersymmetry in final states with missing transverse momentum and three or more *b*-jets in 139 fb⁻¹ of proton–proton collisions at $\sqrt{s} = 13$ TeV with the ATLAS detector", arXiv:2211.08028

- We presented a search for SUSY in final states with many *b*-jets using the full Run 2 dataset
- The result provides world-leading limits in models of gluinos decaying to stops
- We developed a novel deep neural network to interpret the data
- We set limits in a novel branching-ratio space to better summarize open regions of sensitivity
- Accepted by PRD

ATLAS Collaboration, "Constraining the Higgs boson self-coupling from single- and double-Higgs production with the ATLAS detector using pp collisions at $\sqrt{s} = 13$ TeV", Phys. Lett. B 843 (2024) 137745

- We presented a combination of measurements of the Higgs boson and searches for Higgs pair production to set the world's best limits on the Higg's self-interaction

ATLAS Collaboration, "Search for resonant pair production of Higgs bosons in the $b\bar{b}b\bar{b}$ final state using pp collisions at $\sqrt{s} = 13$ TeV with the ATLAS detector", Phys. Rev. D 105 (2022) 092002 (*Editor*)

- We presented a new search for resonant production of Higgs pairs in the all hadronic $b\bar{b}b\bar{b}$ final state
- An entirely new neural-network based technique was deployed for background estimation, leading to substantially reduced systematics
- New improvements to b-tagging at high momentum lead to significantly improved sensitivity
- We set the strongest limits in the world on scalars decaying to Higgs pairs at masses above $\approx 700 \text{ GeV}$

ATLAS Collaboration, "Combination of searches for non-resonant and resonant Higgs boson pair production in the $b\bar{b}\gamma\gamma$, $b\bar{b}\tau^+\tau^-$, and $b\bar{b}b\bar{b}$ decay channels using pp collisions at $\sqrt{s} = 13$ TeV with the ATLAS detector", ATLAS-CONF-2021-052

- We presented a combination of the main search channels for both resonant and non-resonant Higgs pair production
- The resonant limits, dominated above 700 GeV by the $b\bar{b}b\bar{b}$ channel I led, provide the strongest limits to date from 251 to 3 TeV on scalars decaying to Higgs pairs
- The non-resonant limits provide the best limits to date on SM Higgs pair production, and on the Higgs self-coupling
- I supervised the postdoc who was editor of this note

ATLAS Collaboration, "Deep Learning for Pion Identification and Energy Calibration with the ATLAS Detector", ATL-PHYS-PUB-2020-018 (*Editor*)

- Using deep learning techniques, we classified and calibrated electromagnetic and hadronic showers in the ATLAS detector
- The performance compared to traditional feature-based methods was significantly improved in classification performance and energy resolution
- This is the first result utilizing deep learning to improve the reconstruction of low-level signals in the ATLAS experiment

ATLAS Collaboration, "Search for the $HH \rightarrow b\bar{b}b\bar{b}$ process via vector-boson fusion production using protonproton collisions at $\sqrt{s} = 13$ TeV with the ATLAS detector", JHEP 2020, 108 (2020), arXiv:2001.05178, Erratum: JHEP 2021, 145 (2021) (*Editor*)

- We searched for pair production of new resonances and non-resonant processes decaying to pairs of Higgs bosons
- We were the first search for Higgs pair production utilizing the entire run 2 dataset
- We set the first limits (and amongst the strongest to date) on the coupling of pairs of Higgs bosons to pairs of vector bosons

ATLAS Collaboration, "The ATLAS Fast TracKer System", JINST 16 (2021) P07006 (Editor)

- The hardware-based track finding of the FTK system, developed using custom ASICs and FPGA algorithms, is presented
- The FTK system was partially commissioned using *pp* collisions during Run 2, and was able to produce tracks with the expected properties

MilliQan Collaboration, "Search for millicharged particles in proton-proton collisions at $\sqrt{s} = 13$ TeV", Phys. Rev. D 102, 032002

- We built a prototype milli-charged particle detector and operated it during 2018 collisions at the LHC
- We were able to set new limits on milli-charged particles at high masses
- We demonstrated that it was possible to build and commission a new detector in the LHC service tunnels

ATLAS Collaboration, "Jet energy scale and resolution measured in proton-proton collisions at \sqrt{s} = 13 TeV with the ATLAS detector", Eur. Phys. J. C 81 (2021) 689

- The performance of jet reconstruction, scale measurements, and resolution measurements in the highpileup run 2 data is presented, including the first full performance of particle flow jets in ATLAS
- I was the Jet/ E_T^{miss} convener when this paper was published, and I performed the high- p_T uncertainty measurements

ATLAS Collaboration, "Search for pair production of higgsinos in final states with at least 3 b-tagged jets using the ATLAS detector in $\sqrt{s} = 13$ TeV pp collisions", Phys. Rev. D 98 (2018) 092002 (Editor)

- We searched for production of higgsinos decaying to higgs bosons and gravitinos in gauge mediated supersymmetry models.
- We employed a novel strategy to maximize signal acceptance at low- and high-mass by utilizing both b-jet and E_T^{miss} based triggers.
- We set the strongest limits on higgsinos in GGM models, extending previous limits both lower and higher in mass.

ATLAS Collaboration, "Search for supersymmetry in final states with missing transverse momentum and multiple *b*-jets in proton-proton collisions at $\sqrt{s} = 13$ TeV with the ATLAS detector", ATLAS-CONF-2018-041 (*Editor*)

- We updated our 36 fb⁻¹ search (listed below) to 80 fb⁻¹ to quickly follow up on an excess in the previous dataset. No excess was seen in the larger dataset.

- Led the analysis of one of the first searches released using the full 2015-2017 dataset and new ATLAS reconstruction software.
- We provided several unique new signal interpretations of the result, demonstrating the sensitivity of our results to branching ratio choices in signal models.

ATLAS Collaboration, "Reinterpretation of searches for supersymmetry in models with variable *R*-parity-violating coupling strength and long-lived *R*-hadrons", ATLAS-CONF-2018-003 (*Editor*)

- We reinterpreted existing ATLAS searches for R-parity conserving and violating SUSY in the full physical possibility space of the theory.
- We showed the first experimental results at the LHC as a function of the physical RPV coupling, identifying regions where 600 GeV top-partners and 1 TeV gluinos are still experimentally allowed.
- New searches will be designed to fill these holes, and the effort will continue to study other models in the electroweak sector.

ATLAS Collaboration, "A Measurement of the Soft Drop Jet Mass in pp Collisions with the ATLAS detector at $\sqrt{s} = 13$ TeV", Phys. Rev. Lett. 121 (2018) 092001

- We measured the soft drop jet mass, and performed the first comparisons of jet substructure to precision QCD calculations.
- We found the parameters where data best agrees with the calculations and QCD monte-carlo, allowing for improved modelling of backgrounds for future analyses.

ATLAS Collaboration, "Search for production of supersymmetric particles in final states with missing transverse momentum and multiple b-jets at $\sqrt{s} = 13$ TeV proton-proton collisions with the ATLAS detector", JHEP 06 (2018) 107 (*Editor*)

- Using jet substructure, a combination of hadronic and leptonic searches, and a sophisticated multi-bin exclusion strategy, we set the strongest limits yet on gluinos decaying via top or bottom quarks.
- Led the analysis to one of the first 36 ${\rm fb}^{-1}$ results at Moriond.
- Mentored several students to their Ph.D. theses on this topic.

ATLAS Collaboration, "Jet energy scale measurements and their systematic uncertainties in proton-proton collisions at $\sqrt{s} = 13$ TeV with the ATLAS detector", Phys Rev D 96 072002 2017

- I was the Jet Energy Scale group convener for the results documented in this paper.
- I supervised a large team on all aspects of the 13 analyses required to calibrate and measure uncertainties for jets.
- We were able to achieve 1% precision shortly after data taking started in run 2.

ATLAS Collaboration, "Jet reclustering and close-by effects in ATLAS run II", ATLAS-CONF-2017-062 (*Editor*)

- We measured how well jets are modelled in dense environments, an important factor in reconstruction algorithms that utilize jet substructure.
- We demonstrated that there are no significant mismodelings, allowing for new classes of algorithms to be used safely.

ATLAS Collaboration, "Search for pair production of gluinos decaying via stop and sbottom in events with *b*-jets and large missing transverse momentum in pp collisions at $\sqrt{s} = 13$ TeV with the ATLAS detector" (3 fb⁻¹), Phys Rev D 94 032003 (2016)

- We searched for gluinos decaying via 3rd generation squarks in one of the first $\sqrt{s} = 13$ TeV analyses
- We used hadronic top-tagging techniques to improve sensivity at high gluino masses
- We set the strongest observed limits on gluinos

B. Nachman, P. Nef, A. Schwartzman, M. Swiatlowski, C. Wanotayaroj, "Jets from Jets: Re-clustering as a tool for large radius jet reconstruction and grooming at the LHC", JHEP 02 (2015) 075

- We demonstrated that jet substructure techniques can be performed also with existing jet collections as inputs.
- The improved uncertainties and strong performance from this technique have led to improvements in many ATLAS and CMS publications.

ATLAS Collaboration, "Search for massive particles decaying into multiple quarks with the ATLAS detector in $\sqrt{s} = 8$ TeV pp collisions", Phys. Rev. D 91, 112016 (2015)

- We searched for new physics in final states with high jet multiplicity and no missing energy, an area where QCD backgrounds had been previously assumed to be overwhelming.
- We developed new jet substructure techniques (still used in Run 2) both to identify signal and to measure backgrounds.

ATLAS Collaboration, "Measurement of colour flow with the jet pull angle in $t\bar{t}$ events using the ATLAS detector at $\sqrt{s} = 8$ TeV", Physics Letters B (2015) 475-493

- We demonstrated the existence of color flow connections in hadronic radiation when color singlets decay to quarks.

ATLAS Collaboration, "Light-quark and gluon jet discrimination in pp collisions at $\sqrt{s} = 7$ TeV with the ATLAS detector", Eur. Phys. J. C (2014) 74

- We developed the first quark/gluon tagger at a hadron collider.

- We designed new tagging strategies and data-driven techniques to extract efficiencies and uncertainties.

MilliQan Collaboration, "A Letter of Intent to Install a Milli-charged Particle Detector at LHC P5", arXiv:1607.04669

- We proposed a new detector sensitive with unique sensitivity to milli-charged particles.

- The detector can be built quickly and affordably.

Additional Publications

The following is a further list of publications where I have contributed significantly to the analysis or internal review as a convener of a physics group responsible for supervising the paper, or via contributions to the analysis or data-taking.

S. Dasu et. al, "A 'Cool' Route to the Higgs Boson and Beyond: The Cool Copper Collider", Submitted to JINST (Physics case studies, Higgs and di-Higgs production)

N. Bartosik et. al, "Simulated Detector Performance at the Muon Collider", arXiv:2203.07964, submitted to Snowmass 2021 (Simulation and analysis of jets and beam background)

ATLAS Collaboration, "Measurement of the energy response of the ATLAS calorimeter to charged pions from $W^{\pm} \rightarrow \tau^{\pm} (\rightarrow \pi^{\pm} \nu_{\tau}) \nu_{\tau}$ events in Run 2 data", Eur. Phys. J. C 82 (2022) 223 (*Jet/ETMiss group* convener)

ATLAS Collaboration, "Performance of W/Z taggers using UFO jets in ATLAS", ATL-PHYS-PUB-2021-029 (*Jet/ETMiss group convener*)

ATLAS Collaboration, "Digluon Tagging using $\sqrt{s} = 13$ TeV pp Collisions in the ATLAS Detector", ATL-PHYS-PUB-2021-027 (*Jet/ETMiss group convener*)

ATLAS Collaboration, "Identification of hadronically-decaying top quarks using UFO jets with ATLAS in Run 2", ATL-PHYS-PUB-2021-028 (*Jet/ETMiss group convener*)

ATLAS Collaboration, "METNet: A combined p_T^{miss} working point using a neural network with the ATLAS detector", ATL-PHYS-PUB-2021-025 (*Jet/ETMiss group convener*)

MilliQan Collaboration, "Search for millicharged particles in proton-proton collisions at $\sqrt{s} = 13$ TeV", Phys. Rev. D 102, 032002 (2020) (Contributions to construction and commissioning)

ATLAS Collaboration, "Convolutional Neural Networks with Event Images for Pileup Mitigation with the ATLAS Detector", ATL-PHYS-PUB-2019-028 (*Missing Energy group convener*)

ATLAS Collaboration, "Search for new phenomena with large jet multiplicities and missing transverse momentum using large-radius jets and flavour-tagging at ATLAS in 13 TeV pp collisions", JHEP12 (2017) 034 (Strong production group convener)

ATLAS Collaboration, "Search for squarks and gluinos in events with an isolated lepton, jets and missing transverse momentum at $\sqrt{s} = 13$ TeV with the ATLAS detector", Phys. Rev. D 96 (2017) 112010 (Strong production group convener)

ATLAS Collaboration, "Search for supersymmetry in final states with two same-sign or three leptons and jets using 36 fb⁻¹ of $\sqrt{s} = 13$ TeV pp collision data with the ATLAS detector", JHEP 09 (2017) 084 (Strong production group convener)

ATLAS Collaboration, "Search for squarks and gluinos in final states with jets and missing transverse momentum using 36 fb⁻¹ of $\sqrt{s} = 13$ TeV pp collision data with the ATLAS detector", Phys. Rev. D 97 (2018) 112001 (Strong production group convener)

M. Swiatlowski *et al.*, "Test beam evaluation of newly developed n-in-p planar pixel sensors for use in a high radiation environment", Nuclear Instruments and Methods in Physics Research. Section A, 831, 2016, 140-146 (*Test beam and telescope operation*)

ATLAS Collaboration, "Search for pair production of gluinos decaying via top or bottom squarks in events with *b*-jets and large missing transverse momentum in *pp* collisions at $\sqrt{s} = 13$ TeV with the ATLAS detector" (15 fb⁻¹), ATLAS-CONF-2016-052 (*Editor*)

MilliQan Collaboration, "A Letter of Intent to Install a Milli-charged Particle Detector at LHC P5", arXiv:1607.04669 (Contributions to construction and commissioning)

ATLAS Collaboration, "Performance of pile-up mitigation techniques for jets in pp collisions at $\sqrt{s}=8$ TeV using the ATLAS detector", Eur. Phys. J. C (2016) 76:581 (Analyst)

ATLAS Collaboration, "Reconstruction and Modeling of Jet Pull with the ATLAS Detector", ATLAS-CONF-2014-048 (*Editor*)

ATLAS Collaboration, "Performance of jet substructure techniques for large-R jets in proton-proton collisions at $\sqrt{s} = 7$ TeV using the ATLAS detector", JHEP09 (2013) 076 (Analyst)

ATLAS Collaboration, "Performance and Validation of Q-jets at the ATLAS Detector in pp Collisions at $\sqrt{s} = 8$ TeV in 2012", ATLAS-CONF-2013-087 (Editor)

ATLAS Collaboration, "Jet Charge Studies with the ATLAS Detector Using $\sqrt{s} = 8$ TeV Proton-Proton Collision Data", ATLAS-CONF-2013-086 (Analyst)

ATLAS Collaboration, "Light-quark and gluon jets: calorimeter response, jet energy scale systematics and jet properties", ATLAS-CONF-2012-138 (*Main analyst*)

ATLAS Collaboration, "Identification and Tagging of Double b-hadron jets with the ATLAS Detector", ATLAS-CONF-2012-100 (Analyst)

M. Swiatlowski *et al.*, "Estimation of E-cloud and TMCI Driven Vertical Instability Dynamics from SPS MD Measurements – Implications for Feedback Control", IPAC'11, WEP199 (*Analyst*)

Talks at Conferences

"Experimental Overview of Jet Substructure", Invited Plenary at 15th International Workshop on Boosted Object Phenomenology, Reconstruction, Measurements, and Searches at Colliders, July 2023

"Muon Collider and Detector Synergies with e^+e^- ", Invited Plenary at International Workshop on Linear Colliders, Stanford, California, May 2023

"Detector Considerations for a multi-TeV Plasma Wakefield Collider", International Workshop on Linear Colliders, Stanford, California, May 2023

"Applications and Opportunities for Fast Machine Learning at the Large Hadron Collider", Invited Plenary at Fast Machine Learning for Science Workshop, Dallas, Texas, October 2022

"Physics in the High Luminosity Era with the ATLAS Detector", CAP Congress Particle Physics Symposium, Hamilton, Ontario, June 2022

"Probing the nature of electroweak symmetry breaking with Higgs boson pair-production at ATLAS", Lake Louise Winter Institute, Lake Louise, Alberta, February 2022

"Re-interpretable results for di-Higgs", Higgs Pairs Mini-Workshop, online only, September 2021

"Latest Results from ATLAS and Higgs Self-Coupling", TRIUMF Science Week, online only, August 2021

"Hadronic reconstruction with machine learning", Pitt PACC Workshop: LHC Physics for Run 3, online only, April 2021

"Deep Learning for Pion Identification and Energy Calibration with the ATLAS Detector at the LHC", 2020 Accelerated Artificial Intelligence for Big-Data Experiments Conference, *online only*, October 2020

"Constraining the Higgs boson self-coupling in a combined measurement of single and double Higgs boson channels at the ATLAS experiment", ICHEP 2020, *online only*, July 2020

"BSM Results at the LHC", Plenary at Americal Physical Society Division of Particles and Fields, Boston, Massachusetts, July 2019

"Search for Di-Higgs Production via Vector Boson Fusion", Americal Physical Society Division of Particles and Fields, Boston, Massachusetts, July 2019

"Jet and Missing Energy Performance for di-Higgs Searches", Double Higgs Production at Colliders Workshop, Batavia, Illinois, September 2018

"Working Group 3 (Higgs and BSM Physics) Summary", Plenary at DIS 2018, Kobe, Japan, April 2018

"Searches for electroweak Higgsino production in compressed scenarios with ATLAS", La Thuile 2018, La Thuile, Italy, February 2018

"Jet Substructure: The ATLAS Perspective", CMS Jet Substructure Planning for the Future, Batavia, Illinois, November 2016

"ATLAS SUSY Results with \geq 3b-jets", US LHC Users Association Meeting, Berkeley, California, November 2016

"Search for gluinos decaying via top or bottom squarks with the ATLAS detector", SUSY Conference, Melbourne, Australia, July, 2016

"Searching for all-hadronic SUSY with Jet Substructure", US LHC Users Association Meeting, Batavia, Illinois, November 2015

"New SUSY and Jet Analyses at ATLAS", Stanford/SLAC Jamboree Public Talk, Stanford, California, November 2014

``q/g Discrimination and Jet Pull with ATLAS", BOOST Conference, London, United Kingdom, August 2014

"Jets and Substructure with ATLAS", US ATLAS Workshop on LHC Searches at LBNL, Berkeley, California, January 2014

"Tagging Quark/Gluon Initiated Jets at ATLAS", Boston Jet Workshop, Boston, Massachusetts, January 2014

"Pruning and Q-Jets at ATLAS", BOOST Conference, Flagstaff, Arizona, August 2013

"Jet Substructure and Tagging with Tracks", Northwest Terascale Workshop: Using Jet Substructure, April 2012 "Tagging q/g and $g \rightarrow b\bar{b}$ Jets at ATLAS", APS April Meeting, April 2012

Invited Seminars and Colloquia

"The LHC's Next Frontier: Searching for Pairs of Higgs Bosons to Understand the Standard Model and Beyond", Fermilab "Wine and Cheese Seminar", Batavia, Illinois, March 2023

"The LHC's Next Frontier: Searching for Pairs of Higgs Bosons to Understand the Standard Model and Beyond", University of Alberta Physics Colloquium, Edmonton, Alberta, February 2023

"The LHC's Next Frontier: Searching for Pairs of Higgs Bosons to Understand the Standard Model and Beyond", Carleton University Physics Colloquium, Ottawa, Ontario, December 2021

"The LHC's Next Frontier: Searching for Pairs of Higgs Bosons to Understand the Standard Model and Beyond", Brandeis University Physics Colloquium, Waltham, Massachusetts, March 2021

"Searching With di-Higgs Final States at ATLAS", University of Geneva DPNC Seminar, Geneva, Switzerland, November 2020

"Searching With di-Higgs Final States at ATLAS", University of Pennsylvania High Energy Physics Seminar, Philadelphia, Pennsylvania, October 2019

"Searching With di-Higgs Final States at ATLAS", Rutgers University High Energy Physics Seminar, New Brunswick, New Jersey, October 2019

"Searching With di-Higgs Final States at ATLAS", Simon Fraser University Physics Colloquium, Burnaby, British Columbia, January 2019

"Searching With di-Higgs Final States at ATLAS", TRIUMF Colloquium, Vancouver, British Columbia, April 2019

"Searching Beyond the Standard Model: Natural Higgsinos with ATLAS, and MilliCharged Particles with MilliQan", Duke University Seminar, Durham, North Carolina, October 2018

"Searching for SUSY with ATLAS: Current Results and Future Challenges", Waseda University Seminar, Tokyo, Japan, April 2018

"Searching for SUSY with ATLAS, and Looking Beyond with MilliQan", University of Tokyo ICEPP Seminar, Tokyo, Japan, April 2018

"Searching for Naturalness at the LHC in the Higgs Era", Nikhef Seminar, Amsterdam, Netherlands, March2018

"Searching for SUSY with ATLAS, and Looking Beyond with MilliQan", University of Victoria Seminar, Victoria, Canada, November 2017

"Searching for SUSY with ATLAS, and Looking Beyond with MilliQan", Simon Fraser University Seminar, Burnaby, Canada, November 2017

"Searching for SUSY with ATLAS, and Looking Beyond with MilliQan", University of Washington Seminar, Seattle, Washington, November 2017

"Searching for SUSY with ATLAS, and Looking Beyond with MilliQan", TRIUMF Seminar, Vancouver, Canada, November 2017

"A New Detector for the LHC: Physics and Installation of the MilliQan Demonstrator", UChicago HEP Lunch Seminar, Chicago, IL, October 2017

"Hunting SUSY at $\sqrt{s} = 13$ TeV", Cornell LEPP Journal Club, Ithaca, NY, November, 2016

"Hunting SUSY at $\sqrt{s} = 13$ TeV", UIUC HEP Seminar, Champaign, IL, October, 2016

"Hunting SUSY at $\sqrt{s} = 13$ TeV", LPNHE HEP Seminar, Paris, France, September, 2016

"ATLAS SUSY Results at $\sqrt{s}=13$ TeV", SLAC Elementary Particle Physics Seminar, Menlo Park, CA, June, 2016

"ATLAS SUSY Results at $\sqrt{s} = 13$ TeV", Brookhaven HEP Seminar, Upton, NY, March, 2016

"ATLAS SUSY Results at $\sqrt{s} = 13$ TeV", SUNY Buffalo Seminar, Buffalo, NY, March, 2016

"ATLAS SUSY Results at $\sqrt{s}=13$ TeV", University of Chicago HEP Lunch Seminar, Chicago, IL, February, 2016

"Seeing Color Flow in $t\bar{t}$ ", Harvard University Laboratory for Particle Physics and Cosmology Seminar, Cambridge, MA, December 2015

"Seeing Color Flow in $t\bar{t}$ ", Argonne HEP Lunch Seminar, Argonne, IL, December 2015

"Seeing Color Flow in $t\bar{t}$ ", University of Chicago HEP Seminar, Chicago, IL, October 2015

"Searching for RPV SUSY with Jet Substructure", Durham University Institute for Particle Physics Phenomenology Seminar, Durhuam, UK, May 2015

"New Analysis Techniques With Jets at ATLAS", University of Arizona PNUT Seminar, Tucson, AZ, October 2014