ORIGINAL

STATE OF SOUTH CAROLINA

IN THE COURT OF APPEALS

Appeal from Greenville County

Honorable R. Lawton McIntosh, Circuit Court Judge

THE STATE,

RESPONDENT,

V.

PAULA REED ROSE,

APPELLANT

APPELLATE CASE NO 2015-002445

INITIAL BRIEF OF APPELLANT

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STATEMENT OF ISSUES ON APPEAL

I.

The trial judge erred in refusing to direct a verdict of acquittal for arson third degree, making a false insurance claim to obtain benefits for fire or explosion loss, burning personal property to defraud an insurer, and filing a false police report when the only evidence tending to show that Appellant started the two fires at her home was: that the clothing she wore on the morning of the fire and one slipper found in her master bedroom tested positive for trace elements of gasoline, which was also found on charred wood samples taken from the front porch; that police felt Appellant was not sufficiently distraught about the attempted burglary and fire when interviewed several hours after the fire was extinguished and; that police believed hatchet marks on Appellant's steel gun safe in her garage were "too slight" to have been made by a man attempting to break into the safe.

II.

The trial court committed reversible error by allowing Investigator Ben Cannon to testify as an expert in the "origin and cause of fires" when the State failed to demonstrate that Cannon had the necessary education, expertise, training, and experience to give opinion testimony.

STATEMENT OF THE CASE

On February 19, 2013 the Greenville County Grand Jury indicted Appellant Paula Rose for making a false insurance claim to obtain benefits for fire or explosion loss; burning personal property to defraud an insurer; filing a false police report; and third degree arson. R. * (Indictments).

On May5-8, 2014, Appellant proceeded to trial before the Honorable R. Lawton MacIntosh and a jury. Tr. p. 1. John P. "Jack" Riordan represented Appellant. Assistant Attorney Generals Kinli Bare Abee and Joshua R. Underwood represented the State.

The jury found Appellant guilty as charged. Tr. p. 1087, ll. 4-17. The trial court sentenced Appellant to: one year of home incarceration with five years of probation for burning personal property to defraud an insurer; ten years of incarceration suspended upon the service of five years of home incarceration and five years of probation for arson in the third degree; one year of incarceration suspended on the service of five years of probation for filing a false police report; and one year of incarceration suspended on the service of five years of probation for making a false insurance claim to obtain benefits for fire or explosion loss. Tr. p. 1102, l. 25 - 1104, l. 22.

STATEMENT OF THE FACTS

At 8:05 a.m. on July 27, 2012, Appellant called Greenville County 911 in a panic to report that three men were attempting to break into a gun safe in her garage. Tr. p. 372, ll. 15-24. Two were wearing ski masks, the third was bald. Appellant's house is located in a rural section of Greenville County and is surrounded by thick woods. Tr. p. 329, l. 9 - 332, l. 4.

Appellant first the men while standing in her kitchen. Initially, she tried to call 911 with her home phone. It was disconnected; the phone lines had been cut. She then fled into the master bedroom and called 911 from her cell phone. Tr. p. 423, l. 425, l. 10. She quickly armed herself with a pistol and shotgun and changed out of her night gown and bath robe. *Id.*

While hiding in the bedroom, Appellant heard "two bangs and then crackling." *Id.* She then looked out the front window of her bedroom but could not see anything. Still armed, she opened the door to her bedroom, one of her cats ran out of the room. *Id.* She chased after the cat into the family room and discovered that the burglars had set fire to her back porch and sunroom (which connected to both the garage and the main house) and to the front door and porch. *Id.*

The burglars were gone. Appellant chased the cat upstairs, but was driven back by the increasing amount of smoke. *Id.* The 911 operator then told Appellant to leave her pets and get out of the house. *Id.*

At around 8:30 a.m., Benjamin Temple was driving past Appellant's house on his way to work. Tr. p. 329, l. 14 - 332, l. 14. Through the thick woods around Appellant's home, he saw heavy smoke coming from the eaves of the house and pulled past the open gate leading into the driveway. Appellant came running out on to the burning front porch, waiving her hands for help. Tr. p. 329, l. 11 - 333, l. 8.

Temple would recall that Appellant was greatly distressed about her dogs, whom she believed had fled upstairs. *Id.* Appellant begged to Temple to rescue them. Temple, observing the growing conflagration engulfing the rear of the house, declined, but he was able to get a hysterical Appellant to confirm that there were no other people in the house. *Id.*

Only minutes after Temple arrived, firefighters pulled up to the residence. Greenville County Firefighter Lt. Douglas Proffitt was the first to enter Appellant's house. Tr. p. 348, l. 5 - 349, l. 21. Proffitt quickly "sized up the fire". *Id.* The fire on the front porch was still smoldering, but had "mostly burned itself out." Tr. p. 348, l. 7-18. In contrast, the fire on the back porch and sunroom was still growing, encroaching into the kitchen and living room; causing smoke to bellow through the front door. Tr. p. 349, l. 5 - 351, l. 12.

Proffitt spoke with Appellant who begged the firefighters to save her trapped dogs and cats. Tr. p. 359, ll. 4-18. Appellant was covered in soot and had been standing around the front porch fire. Tr. p. 360, ll. 3-24. Proffitt recalled that he and the other firefighters were worried because Appellant had a pistol tucked into her waistband. Tr. p. 361, l. 4 - 362, l. 21.

In the process of "pushing" the back porch and sunroom fire out of the interior of the house, firefighters stumbled upon two of Appellant's dog in the thick smoke and dragged them out of the house. *Id.* Appellant was ecstatic, profusely thanking the firefighters and hugging both dogs, who were covered in fire debris and soot. *Id.*

Greenville County Deputy James Henderson was the first law enforcement officer to arrive at the scene. Tr. p. 381, l. 17 - 382, l. 21. He reached Appellant's house at around 8:50 a.m. right behind the firefighters. *Id.* Appellant told Henderson that she did not know if the burglars were still around, but begged him to rescue her pets. Tr. p. 383, l. 3 - 384, l. 22.

Henderson searched the property and concluded t the burglars had fled. *Id.* He testified Appellant hugged and comforted her animals after the firefighters pulled them out of the fire. Tr. p. 384, l. 18 - 385, l. 12. Fortunately, all six of Appellant's pets (3 cats, 3 dogs) survived the fire.

Henderson found a small shoe print near the open gate leading from Appellant's backyard to the surrounding woods. Tr. p. 385, l. 13 - 387, l. 6. A K-9 office also arrived at the scene, but the tracking dog was not deployed because the area was too contaminated with different scents from the fire and the emergency responders. Tr. p. 402, l. 14 - 406, l. 20.

Initial Police Investigation and First Search of Appellant's Home

Investigator Randy Morgan, with the Greenville County Sheriff's property crimes division, arrived at Appellant's house shortly after the fire was extinguished. Tr. p. 411, l. 18 - 412, l. 14. Appellant told him that she discovered the burglars after she walked to the door leading from the kitchen to the garage to figure out why her dogs were barking. Tr. p. 413, ll. 5-21.

When she looked out of the window of the door, she saw the three men attempting to open her safe by manipulating the dial. *Id.* Morgan determined that the burglars never gained access to the safe. *Id.* at 8-22. The garage door closest to the gun safe was open on the morning of the attempted burglary and Appellant's car was being repaired, so no vehicle was present. Tr. p. 417, l. 5 - 418, l. 25.

After his preliminary discussion with Appellant and inspection of the home, Morgan, Appellant, and Appellant's husband, State Trooper Homer Rose, agreed to meet at the police station after Appellant had changed clothes, ate, and showered. Tr. p. 419, l. 18 - 420, l. 16. Morgan wanted to "give her time to think about the incident so if she had mighta left out some details with the chaos." Tr. p. 420, ll. 19-21.

Morgan continued to inspect the fire scene. On the front porch there was a red, plastic gasoline can near a burned dog bed. Tr. p. 502, l. 23 - 503, l. 7. Appellant identified the gasoline can as one they owned. *Id.* Next to the back porch, there was a melted yellow, plastic gasoline can that Appellant did not recognize. Tr. p. 434, l. 14 - 435, l. 18. Although melted, this plastic container appeared to Morgan to be newly purchased. Tr. p. 456, l. 8 - 457, l. 7. The lid for the yellow can was found near the back porch unburned. *Id.* The lid was never tested for fingerprints. *Id.*

Appellant and her husband, Homer, believed that the front gate on their driveway was closed after Homer left for work earlier that morning. *Id.* Appellant and her husband were unsure if the gate in the backyard had been closed before the fire. *Id.* Asked who knew the combination to the gun safe, Homer replied that his ex-wife did and that she believed that Appellant and Homer had an affair while she was still married to him. Tr. p. 511, l. 17 - 5146, l. 23.

Near the red, plastic gasoline can on the front porch were two clear latex gloves. Tr. p. 525, l. 3 - 528, l 9. Near the back porch there was a partially burned white latex glove of a different make than those in the front yard. *Id.* All three were taken into evidence.

Morgan also found a small hatchet next to the safe that he believed had been used to make a dent in the steel gun safe next to the dial. Tr. p. 430, ll. 2-24. No fingerprints were found on the hatchet. Tr. p. 890, ll. 3-8. However, paint chips found on it matched the paint on the safe. Tr. p. 769, l. 9 - 770, l. 2.

Police also recovered an inexpensive Samsung DROID X cell phone in the grass next to the road outside of Appellant's house, as well as, a plastic bag from Lowe's Home improvement.

Tr. p. 523, l. 19 - 524, l. 11. Both items were taken into evidence, but neither was tested for prints or otherwise inspected. *Id.*

One of the responding deputies located two shoe unknown impressions in the front yard. Tr. p. 454, ll. 1-16. Morgan noted the shoe impressions in his incident report, but no photographs were taken of the impressions. *Id.* Finally, Morgan briefly canvassed Appellant's rural neighborhood. Tr. p. 459, l. 9 - 460, l. 19. One neighbor reported that a red pick-up truck with an empty utility trailer had been parked at a barber shop that abutted the woods behind Appellant's house at around 6:30 on the morning of the attempted burglary. *Id.*

The neighbor assumed that the barber shop's owner had hired a landscaping crew. *Id.* The barber shop owner told police that he when he arrived at his business around 7:45 a.m. there was no truck. Furthermore, he had not hired anyone to do landscaping at the business. *Id.*

Several days after the fire, Morgan visited the two nearest Lowe's locations in an effort to see if anyone bought the yellow gas can found by the back porch. Tr. p. 502, l. 17 - 508, l. 18. He had the stores pull sales records from ten days before the fire. Two individuals had purchased such cans, one at each store. One man, "older white haired gentlemen" who had used a credit card from a business called Buckeye Construction. Tr. p. 504, l. 11 - 505, l. 17.

The other was a "small-framed" white man using a credit card with the name Jeff Aughtry. Tr. p. 507, ll. 2-18. Despite two of the three burglars wearing ski-masks, Morgan dismissed these two men as "not meeting the description" of the suspects. Tr. p. 505, l. 14 - 506, l. 21; Tr. p. 508, ll. 12-18. He never contacted either the construction company or Aughtry and did not request any of the video footage of their purchases or receipts from the stores. *Id.*

Morgan's Meeting with Appellant

In her meeting with Investigator Morgan, several hours after the fire was extinguished and all of her pets were safe, Appellant reiterated that three men attempted to break into or unlock the gun safe located in her garage. Tr. p. 422, ll. 1-19. She saw them and they saw her. She grabbed the nearest dog and fled to the master bedroom on the other side of the house once she realized the phone lines had been cut. Tr. p. 423, ll. 1-23.

During the interview, Appellant recalled that she kept waiting to her glass break, signaling that the burglars had entered the house. *Id.* Instead, she heard "two large bangs" coming from the garage. *Id.* She looked out the front window of her bedroom, which faces the road, and did not see anyone. Tr. p. 422, l. 1 - 423, l. 5.

A short time later she heard a crackling noise. *Id.* She opened the bedroom door and a cat ran out. She chased the cat and, for the first time, realized that her house had been set on fire. Tr. p. 424, l. 2 - 425, l. 10. She chased the cat upstairs, but had to turn back because of the smoke. *Id.* At that point the 911 operator told her to get out of the house.

At trial, Morgan testified that, until this interview, Appellant had been treated as a victim. Tr. p. 420, ll. 12-16. During the interview, Morgan believed that Appellant - whom he had only hours earlier advised to shower, change clothes, get something to eat, and take some time to calm down - was simply "too calm" and showed "no emotion whatsoever." Tr. p. 425, l. 20 - 426, l. 7.

In his experience, victims of property crimes, "normally they're very shaken, uh, very upset. Uh, that the the one word that comes all the time is 'violated,' somebody has entered their space, somethin' that's sacred to them and somebody has violated that space." *Id.* (*verbatim*). Appellant's calm demeanor did not meet his expectations.

Coincidentally, Appellant first told Morgan about her tumultuous divorce from the brother of a senior Oconee county sheriff's investigator six years earlier during this interview.

Tr. p. 466, l. 13 - 476, l. 14. Appellant explained that her first husband was physically abusive. Tr. p. 248, l. 16 - 257, l. 3. During the divorce proceedings, Appellant was arrested for: second degree burglary, grand larceny, filing a false police report, making a false statement to for insurance proceeds, harassment, and unlawful use of a telephone. *Id.*; *see also* Tr. p. 463, l. 23 - 467, l. 3.

As a result of those charges, she temporarily lost custody of her son. *Id.* She stood trial and was acquitted of harassment, second degree burglary, and grand larceny. The remaining charged were dismissed. *Id.* She then successfully sued Oconee County under 42 U.S.C § 1983, resulting in a three hundred thousand dollar settlement. *Id.*

At trial, Morgan expressed deep skepticism regarding Appellant's Oconee County claims. He ran a background check that confirmed the not guilty verdicts and dismissals, but did not otherwise investigate the matter. Tr. p. 466, l. 13 - 476, l. 14. Instead of crediting Appellant's explanation, Morgan found it odd that she had not tried to have the charges expunged from her record. Tr. p. 464, ll. 3- 464, l. 6.

He also noted that Appellant spoke much more passionately about her Oconee County travails than she did about the fire at her house. Tr. p. 473, ll. 3-15. Appellant also told him she was writing a self-published book about her experience. Tr. p. 531, l. 25 - 532, l. 6.

Morgan claimed that he never spoke with Oconee County law enforcement about Appellant. Tr. p. 466, l. 13 - 476, l. 14. He found no connection between the fire and the Oconee County matters. *Id.*; *see also* Tr. p. 530, ll. 4-25. He averred that her record of acquittals and dropped charges had no impact on his investigation. *Id.* Shortly after concluding his meeting with Appellant, Morgan met with Greenville County arson investigators Ben Cannon and Charles Gonzales to compare notes.

Arson Investigation

Ben Cannon and Charles Gonzales were the two arson investigators assigned to Appellant's case, they were Greenville County's only arson investigators at the time. Tr. p. 536, ll. 1-9. Gonzales arrived at Appellant's house around 10:00 a.m. with an accelerant detection dog. Tr. p. 540, l. 25 - 543, l. 5. Firefighters had already extinguished both the front and back fires. Tr. p. 543, l. 20 - 544, l. 23.

Gonzales led an accelerant detection dog around the outside of the home, they ran into Appellant in the back yard. *Id.* Likely to provide better a description of the burglars, Appellant asked Gonzales how tall he was. *Id.* At trial, Gonzales claimed that he found this question suspicious. *Id.*

Gonzales led the dog to the front porch and collected samples of charred wood where the dog "alerted" to possible presence of ignitable liquids. Tr. p. 546, l. 7 - 552, l. 5. Gonzales collected additional samples from the back porch where the accelerant detection dog had also identified the presence of ignitable liquids. *Id.*

Gonzales did not interview Appellant and never spoke with the other witnesses to the fire such as Deputy Henderson or Ben Temple. Gonzales also never spoke with the firefighters extinguished the fire as he likes "to for my opinion on cause of the fire versus what they tell me." Tr. p. 632, ll. 1-24.

Investigator Ben Cannon, the lead arson investigator, briefly interviewed Appellant at her home that morning. Tr. p. 867, l. 17 - 888, l. 11. Cannon would claim that Appellant was "relatively calm" and was able to coherently answer his questions. Tr. p. 869, ll. 15-22. Cannon briefly chatted with the fire chief who had just arrived in time to supervise the last minutes of fire

fighting. *Id.* Police released the house to SERVPRO at 12:20 p.m. They immediately began to document the damage and to prepare to clear the house of debris. Tr. p. 961, l. 18 - 962, l. 14.

Meeting between Investigator Cannon, Investigator Gonzales, and Investigator Morgan

The investigators met later that afternoon to compare notes. Tr. p. 426, l. 1 - 428, l. 6. Morgan retrieved Appellant's criminal record before the meeting. In their collective opinion, Appellant's demeanor was inappropriate for a stay-at-home wife who had just experienced an attempt burglary and arson. *Id.*

She had simply been too calm in comparison to her obvious passion when talking about her Oconee County problems and her hatred of that Sheriff's Department and SLED. Tr. p. 473, l. 3 - 475, l. 23. That Morgan had recorded in his incident report that Appellant was "'upset and worried about her pets,'" even after the fire had been extinguished and the pets recovered was either ignored or dismissed. Tr. p. 454, ll. 4-17. As none of the investigators interviewed the firefighters who extinguished the fire, they were likely unware that the firefighters had found Appellant frantic about the safety her animals. Tr. p. 357, l. 10 - 358, l. 10; *see also* Tr. p. 361, l. 16 - 362, l. 21.

Nevertheless, the men concluded that Appellant had been entirely too calm in recounting the attempted burglary. Tr. p. 426, l. 1 - 428, l. 6. Cannon testified at trial that the group also concluded that the marks on the gun safe, near the dial, were superficial and that a man using a small hatchet would have caused more damage to Appellant's steel gun safe. Tr. p. 877, l. 13 - 878, l. 10. The marks location also suggested to him that they were made by a short man or a woman. *Id.*

The investigators also believed it was odd that the fires had been started on the wooden front porch, the vinyl-sided sunroom, and the wooden back porch. *Id.* They contended that a true

concealment fire, one meant to destroy evidence of the attempted burglary, should have been started in the garage despite it having a concrete floor. *Id.* Overlooked by their analysis was the fact that, had they continued to spread, the fires would have blocked all the exterior doors of the house, effectively trapping Appellant and her pets inside her burning home.

Finally, Cannon alleged that he found inconsistencies in Appellant's version of events:

> [T]he main thing, uh, that I noticed was in the beginnin' of the statement of the [911] call. She said there were three men threatening her trying to get her to open the safe, uh, and what that means to me is someone is actively threaten me tyin' to get me to open the safe exactly what it said, uh, and that's that's mentioned nowhere any any statements that I've seen about this case.

Tr. p. 887, l. 23 - 888, l. 4 [*verbatim*]. Cannon's interpretation did not explain why three burglars "actively threatening" Appellant would allow her to call 911. Tr. p. 887, l. 23 - 888, l. 4. Cannon also felt Appellant should have been able to see if the section of the front porch around her front door was on fire when she looked out the front window of her master bedroom at the opposite end of the house. Tr. p. 888, ll. 5-19.

After roughly six hours of work on the case, the investigators had concluded that this incident was most likely not an attempted burglary, but rather a scheme by Appellant to - for reasons unknown - burn her own home down. The three investigators returned to Appellant's home at around 5:11 p.m., almost five hours after SERVPRO had begun recovery work. Tr. p. 137, l. 7 - 138, l. 13.

Search of Appellant's Home

The investigators returned to Appellant's house and, for the first time, presented a request to search form to her husband, Homer. Tr. p. 119, l. 20 - 120, l. 8. They explained that they wanted to collect additional evidence related to the arson. *Id.* Homer signed the consent form and had SERVPRO stop working. Tr. p. 120, l. 17 - 123, l. 17.

Homer would testify that he believed he was consenting only to a continued search of the garage area and that he did not consent to investigators searching his house with the accelerate detection dog. Tr. p. 216, l. 15 - 217, l. 23. The investigators uniformly testified that Homer signed the consent form after being advised they were going to search the entire house.

Gonzales would claim at trial that the accelerant detection dog searched the entire house and only "alerted" on a pair of Appellant's L.L. Bean leather slippers with rubber soles. Tr. p. 564, l. 12 - 566, l. 22. The dog alerted to nothing else in the house. *Id.* The police collected no control or comparison samples to test what petroleum based products may have been indigenous to the home (such as paint thinner, floor wax, turpentine, charcoal, and other cleaning solvents) or to test the dog's accuracy in non-testing environment. *Id.*; *see also* Tr. p. 774, ll. 15-25; Tr. p. 837, l. 1 - 845, l. 16.

Having secured the shoes, the investigators then demanded to know where the clothes that Appellant had worn at the time of the fire were. Tr. p. 168, l. 5 - 171, l. 23. At this point, Appellant and Homer began to realize that the police were now treating Appellant as a suspect. Appellant explained that her clothes were at the apartment of Ellie Hansen. *Id.* Hansen was a family friend, who helped Appellant with errands, house cleaning, and her six pets. Tr. p. 22, ll. 17-23.

Search of Ellie Hansen's Apartment

Police arrived at Hansen's apartment along with Hansen, Appellant and Homer. At this point Appellant was consulting with lawyer via telephone about the sudden turn in law enforcement's investigation. Tr. p. 153, l. 11 - 154, l. 20. Appellant was irate at having been made a suspect and told Hansen not to consent to the requested search of her apartment. Tr. 266, l. 17 - 269, l. 18.

Appellant and Homer would both testify that Gonzales repeatedly threatened to arrest Hansen if she did not let police search her apartment. Tr. p. 223, l. 17 - 225, l. 6. Gonzales and the other investigators denied coercing or threatening Hansen. Tr. p. 172, l. 19 - 173, l. 10; Tr. p. 194, ll. 6-19.

All parties agreed that Hansen was crying and unable to make a decision. Tr. 173, ll. 16-24; Tr. p. 208, ll. 1-19. Eventually, one of the investigators assured Hansen that police only wanted to seize Appellant's clothes and that they would not search her apartment. Tr. p. 173, l. 16 - 175, l. 25.

After these assurances, Hansen, who was not present for Appellant's trial, then signed the consent form. *Id.* Appellant's clothes from that morning were found wadded up in a bag on the kitchen counter. *Id.* Appellant asked that they tear the clothes in half so that she could retain some for independent testing. *Id.* The police refused to divide the clothes and they were sent to SLED for testing. *Id.*

SLED's Test Results

In total, law enforcement submitted ten items for testing: four samples of charred wood, two of Appellant's slippers, two samples of paint chips, and the clothes that Appellant was wearing during the fire (jeans and cotton tee shirt). R. * (State's Exhibit 25). Two charred wood samples from the back porch and sunroom tested positive for heavy petroleum distillates and a heavy aromatic product. Tr. p. 771, l. 1 - 775, l. 7.

SLED technician Megan Fletcher explained at trial that heavy petroleum distillates include, "kerosene, diesel fuel, some jet fuels and some charcoal starters." Tr. p. 771, ll. 4-18. Heavy aromatic products include, "some insecticide, vehicles and industrial cleaning solvents." *Id.*

The two charred wood samples from the front porch tested positive for gasoline. *Id.* at ll. 19-23. One of Appellant's slippers tested positive for toluene and a medium petroleum distillate. Tr. p. 772, ll. 2-14. Medium petroleum distillates are "some charcoal starters, some paint thinners and some dry cleaning solvents." *Id.*

Toluene is a light aromatic product commonly used as an adhesive in shoes and also found in paint thinner. Tr. p. 803, l. 1 - 806, l. 16. The other slipper tested positive for gasoline and a medium petroleum distillate. Tr. p. 772, ll. 2-14. Appellant's clothing also tested positive for the presence of gasoline and a medium petroleum distillate. *Id.*

Fletcher testified that the gas chromatograph mass spectrometer test, used in Appellant's case, can only detect the presence of absence of ignitable liquid, it cannot determine the specific amount or the specific kind of the liquid. Tr. p. 799, ll. 1-9. Fletcher further explained that the liquid must be transfer to the object while still in a liquid form, but that even an extinguished fire will test positive for the presence of ignitable liquids because not all of the liquid will burn, a residual amount of it will remain. Tr. p. 777, l. 3 - 788, l. 19.

Fletcher added that for the presence of a certain ignitable liquid to have evidentiary value, law enforcement must compare it to a "control sample" taken from the same room to determine whether the presence of a particular liquid is indigenous to the room. Tr. p. 774, ll. 15-25. Law enforcement did not take any control samples in Appellant's case.

Appellant's Arrest

On September 10, 2012, shortly after the police received the results of the ignitable liquids tests from SLED, an arrest warrant was issued for Appellant. She turned herself in two days later. Tr. p. 652, l. 14 - 653, l. 7. On the day she was taken into custody, the Greenville County Sheriff's Office issued a press release, carried by the local news, stating that their

investigators had determined that Appellant was lying about the attempted burglary. Tr. p. 940, l. 23 - 941, l. 16.

Post-Arrest Evidence

Two months after Appellant's arrest, the results of the DNA tests from the three latex gloves found near the fires revealed that all three gloves contained a mixture of DNA from between two and three individuals. Tr. p. 707, l. 7 - 710, l. 22. While inconclusive as to the identity of any one person, the gloves tested positive for a "Y" chromosome, indicating that, at least, one person who handled each of the gloves was male. *Id.*

Latent print analysis of fingerprints collected from the front of Appellant's safe, completed after her arrest, determined that one of two recovered prints were from Appellant. Tr. p. 720, l. 13 - 721, l. 22. The other fingerprint did not match Appellant, Homer Rose, or Ellie Hansen; the three people police expected to find prints for in the house and garage. *Id.*

By the investigators' own admission, Appellant had no apparent motive to burn down her house while she and her pets were still inside. Tr. p. 922, l. 15 - 923, l. 15; Tr. p. 965, l. 11 - 966, l. 19. A finances were eliminated when the defense produced investment reports showing that Homer Rose received $140,000 a year from a trust fund set up after the sale of a family own Major League Baseball concessions business. Tr. p. 748, l. 1 - 752, l. 11.

This trust fund was in addition to his salary as a state trooper and Appellant's settlement money from Oconee County. *Id.* Appellant was not a named insured under the home owner's insurance police. Tr. p. 731, l. 5 - 733, l. 21

At trial, the prosecution speculated that Appellant tried to burn her house down to gain publicity for her book about Oconee County law enforcement. Tr. p. 303, l. 25 - 304, l. 12; Tr. p. 1028, l. 14-20. However, Investigator Cannon disagreed with this theory. Tr. p. 922, l. 15 - 923,

l. 15; Tr. p. 965, l. 11 - 966, l. 19. Moreover, police admitted that Appellant never gave an interview to any media outlets and that the only press releases about the fire were those issued by the Greenville County Sheriff's Office. *Id.* The trial court likewise concluded that the State presented no evidence of any motive during the trial. Tr. p. 979, ll. 2-16.

Home Insurer State Farm's Report and Payments

State Farm, the issuer of Homer Rose's homeowners insurance policy, hired former Casey Police detective and certified arson investigator William "Phil" Brooks to conduct a parallel investigation into the fire. Tr. p. 814, ll. 17-24. He interviewed the Roses and Ellie Hensen about what work had been recently done to the house. Tr. p. 815, l. 19 - 818, l. 4. Appellant explained that work had recently been done by a landscaping company, HVAC technicians, and a TV installer. *Id.*

Unlike the Greenville County Investigators, Brooks also interviewed the first firefighters to arrive at the house. Tr. p. 829, l. 23 - 831, l. 23. Brooks testified that there is "a real possibility of contamination" in almost every fire. *Id.* Brooks further testified that the presence of ignitable liquids on Appellant's clothes and slippers worn during the fire could have been caused by Appellant standing around the area of the front porch fire or from coming into contact with her pets who had also been in and around the fire. Tr. p. 832, l. 7 - 839, l. 14

Brooks cautioned that the risk of contamination to clothing and shoes was particularly acute in the minutes immediately after the fire. Tr. p. 839, ll. 8-20. Brook further cautioned that for the presence of an ignitable liquid to be evidence of a person's complicity in arson, the liquid must match the kind used in the fire and investigators have to determine "whether or not the [fluid] is indigenous to the fire scene." Tr. p. 837, ll. 12-24.

When handed a photograph of Appellant's slippers in her bedroom taken by SERVPRO before Investigator Gonzales led the accelerant dog through the house and a later photograph of the accelerant dog "alerting" to the slippers, Brooks testified that it appeared the slippers were moved sometime between when the two photographs were taken. Tr. p. 841, l. 6 - 842, l. 10.

Brooks then reiterated that contamination of a fire scene is always a concern, particularly once the scene is released from police control and the clean-up process begins. Tr. p. 842, l. 2-10. Brooks then agreed with defense counsel that a comparison pair of shoes in this case would have been essential to "prior to making any decisions about the significance of petroleum products identified on shoes." Tr. p. 844, l. 9 - 845, l. 16.

State Farm paid $238,000 for repairs the home. Tr. p. 736, l. 25 - 740, l. 18. These payments were made to the mortgage company. Tr. p. 743, l. 9 - 750, l. 21. State Farm paid $55,000 for the lost or damaged contents of the house. *Id.* Rather than replace their clothes and furniture, Appellant and Homer elected to have much of it repaired. *Id.* Accordingly, $35,000 of total paid for the contents of the house went to SERVPRO and other vendors *Id.*

State Farm claims handler, Nicholas Gregory, testified that the contents and structural payments were normal given the substantial damage to the home and that very little of the money was directly paid to Appellant or Homer Rose. *Id.* The Roses saved State Farm money by staying in Hansen's apartment while their house was being repair, instead of staying in a rental house equivalent to their home as they were entitled to under the policy. *Id.* The only notable expense was $5,000 in pet boarding costs. *Id.*

Neither Gregory nor Brooks saw any evidence that Appellant had moved valuables or family keepsakes either out of the house or away from the sunroom and front porch prior to the fire. *Id.*

ARGUMENT

I.

The trial judge erred in refusing to direct a verdict of acquittal for arson third degree, making a false insurance claim to obtain benefits for fire or explosion loss, burning personal property to defraud an insurer, and filing a false police report when the only evidence tending to show that Appellant started the two fires at her home was: that the clothing she wore on the morning of the fire and one slipper found in her master bedroom tested positive for trace elements of gasoline, which was also found on charred wood samples taken from the front porch; that police felt Appellant was not sufficiently distraught about the attempted burglary and fire when interviewed several hours after the fire was extinguished and; that police believed hatchet marks on Appellant's steel gun safe in her garage were "too slight" to have been made by a man attempting to break into the safe.

Relevant Facts

After the close of the State's evidence and again prior to closing arguments, the defense moved for a directed verdict of acquittal on all counts. Tr. p. 975, l. 4-15. The trial noted that "I do not think this is the strongest case I've seen." Tr. p. 975, l. 16 - 976, l. 12. The court also observed that there was no evidence of any motive "other than [the State's] opening argument." Tr. p. 979, ll. 2-9.

The State countered that Appellant, while Appellant was not on the insurance police, she knew that there was an insurance policy and that an insurance claim could benefit her. Tr. p. 979, l.17 - 980, l. 19. Ultimately, the trial court denied a directed verdict as to all indictments. Tr. p. 988, ll. 4-8

At the post-trial motions hearing, held on September 2, 2015 so as to allow transcripts to be prepared, Appellant again renewed her objection to the denial of a directed verdict. Tr. p. 3, l. 4 - 4, l. 14; Tr. p. 15, l. 8 - 33, l. 22. Appellant also entered into evidence record a written memorandum of the defense's directed verdict argument. *Id.*; *see also R.* * (*Defense's Memorandum in Support of Post-Trial Motions*).

In the memorandum, defense counsel again argued that "no direct evidence was presented and the circumstantial evidence was not substantial as required to overcome directed verdict." *Id.* Defense counsel further stated that none of the evidence adduced at trial rose above the level of mere suspicion. *Id.* The Court again denied Appellant's renewed directed verdict motion. R. * (Post-Trial Order).

Discussion

Our Supreme Court has held that when reviewing a trial judge's denial of a motion for a directed verdict, the appellate court is required to consider "not whether there is 'any' evidence to support the conviction, but whether viewing the evidence in the light most favorable to the prosecution, there is sufficient evidence to justify a rational trier of fact to find guilt beyond a reasonable doubt." *State v. Stewart*, 278 S.C. 296, 295 S.E.2d 627, 632 (1982), citing *Jackson v. Virginia*, 443 U.S. 307, 99 S.Ct. 2781 (1979); *see, also, State v. Asbury*, 328 S.C. 187, 493 S.E.2d 349 (1997). The accused is entitled to a directed verdict when the State fails to present evidence to support every element of the charged offense. *See State v. Brown*, 360 S.C. 581, 586, 602 S.E.2d 392, 395 (2004).

When considering a motion for directed verdict of acquittal, "the trial court is concerned with the existence or non-existence of evidence, not its weight." *Brown*, 360 S.C. at 586, 602 S.E.2d at 395. "When the State fails to produce ***substantial circumstantial evidence*** that the defendant committed a particular crime, the defendant is entitled to a directed verdict." *State v. Odems*, 395 S.C. 582, 720 S.E.2d 48 (2011) (*emphasis added*). "Suspicion implies a belief or opinion as to guilt based upon facts or circumstances which do not amount to proof." *See State v. Buckmon*, 347 S.C. 316, 322, 555 S.E.2d 402, 404-05 (2001)

Recently, in *State v. Bennett*, 415 S.C. 232, 781 S.E. 2d 352 (2014), the Court extensively analyzed when circumstantial evidence is sufficient to raise an issue of fact for the jury. Bennett was convicted of petit larceny, malicious injury to property, and second degree burglary arising out of a break-in at a community center. 415 S.C. 232, 236, 781 S.E. 2d 352, 354. Officers responding to the community center found a broken window and a mounted television set that appeared to have been damaged. 415 S.C. at 234, 781 S.E.2d at 353.

Police also found a fingerprint on the damaged television and two drops of blood on the ground underneath it that matched Bennett. *Id.* Bennett was a regular visitor to the community center's computer room where police discovered a computer was missing. *Id.* The community center's director testified that she could not remember Bennett ever being in the community room where the broken window and damaged TV were found, but conceded that the door to the community room was not always locked and that she was not on site during all operating hours. 415 S.C. at 254, 781 S.E.2d at 353.

The Court affirmed the trial court's denial of a directed verdict. Without considering any reasonable alternative explanations for the blood and fingerprints "the evidence could induce a reasonable juror to find Bennett guilty" as forensic evidence placed Bennett at the scene of the crime and there was testimony that suggested Bennett would normally not be expected to be in the community room. 415 S.C. at 237, 781 S.E.2d at 354.

In another recent decision, *State v. Pearson*, 415 S.C. 463, 783 S.E.2d 802 (2016), the defendant was convicted of first degree burglary, armed robbery, kidnapping, grand larceny, and possession of a weapon during the commission of a violent crime and, on appeal, challenged the trial court's failure to grant a directed verdict of acquittal. 415 S.C. at 468, 783 S.E.2d at 805

The victim testified that he was attacked by three black males wearing masks as he left his garage. *Id.* He was robbed and beaten. His 1987 El Camino was stolen. 415 S.C. at 466, 783 S.E.2d at 804. The car was found less than an hour later near the victim's auto parts store. *Id.* A thumb print taken from the driver's side of the car matched Pearson. *Id.* DNA recovered from the Victim's head wound matched a Victor Weldon.

Weldon and Pearson denied ever having met and both denied any involvement in the crime. Pearson also denied knowing anything about the victim. *Id.* To counter these claims, the State presented evidence that Weldon and Pearson had been in the same vocational training program and that Pearson had worked as a landscaper at the victim's house. *Id.*

The Supreme Court held that the following evidence was sufficient to overcome the directed verdict motion:

> (1) Pearson's fingerprint was found on the stolen vehicle, which was located approximately two miles from Victim's home within thirty minutes of the crime; (2) Pearson denied that he had contact with Victim's vehicle, knew Victim, or knew where he lived; (3) Victim testified that before the suspects drove away one of the men, who was riding in the open back of the vehicle, got out of the vehicle and returned to attack him; (4) Pearson and Weldon were in the same vocational rehabilitation training program during a four-day period; and (5) DNA evidence on the duct tape removed from Victim's head was matched to Weldon.

415 S.C. at 474, 783 S.E. at 808. Based on this evidence, without considering other explanations for its existence, the Court held that it "could induce a reasonable juror to find Pearson guilty." *Id.*

Application

The essential two elements in all of Appellant's charges are: (1) that she started the two fires and (2) that she lied about the attempted burglary to hide her culpability.

Arson third degree occurs when an individual "willfully and maliciously: causes an explosion, sets fire to, burns, or causes a burning which results in damage to a building or structure" other than in situations amounting first degree and second degree arson. S.C. Code Ann. § 16-11-110(C). Burning of personal property to defraud an insurer occurs when:

> Any person . . . willfully and knowingly presents or causes to be presented a false or fraudulent claim, or any proof in support of such claim, for the payment of a fire loss or loss caused by an explosion, upon any contract of insurance or certificate of insurance which includes benefits for such a loss, or prepares, makes, or subscribes to a false or fraudulent account, certificate, affidavit, or proof of loss, or other documents or writing, with intent that such documents may be presented or used in support of such claim.

S.C. Code Ann. § 16-11-130. Filing a false police report and making a false claim or statement in support of claim to obtain insurance benefits for fire both require an accused to "knowingly file" a false report or claim. S.C. Code Ann. § 16-11-125; § 16-17-722(A).

In Appellant's case, the State's circumstantial evidence that Appellant started the fire and then lied about the attempted burglary never rose above a vague suspicion of Appellant's guilt, not amounting to proof. *State v. Mictchell*, 341 S.C. 406, 409, 535 S.E.2d 126,127 (2000); *see also Jackson,* 443 U.S. 307, 99 S.Ct. 2781. This case parallels, in many respects, *State v. Lollis*, 343 S.C. 580, 541 S.E.2d 254 (2001), where our Supreme Court reversed a trial court's denial of a directed verdict in a similar arson prosecution.

In *Lollis*, the police believed that the defendant and his common law wife conspired to burn down his house because of financial difficulties. 343 S.C. at 584-585, 541 S.E.2d at 256-257. Lollis' wife confessed to starting the fire because of her depression over their financial situation, Lollis denied any involvement and maintained that he had no motive to burn down his

recently remodeled home. He also stated that he removed valuables from the house, immediately before the fire, to keep them from being damaged by drywall dust. *Id.*

Lollis did not receive any insurance money for the loss of the home as the proceeds went to the mortgage company. *Id.* Furthermore, although not wealthy, he was current on his credit card bills. *Id.* Despite this weak circumstantial evidence, the arson investigator adamantly "believed" that Lollis and his wife conspired to burn the house down as he possessed a key to the storage room that contained some of their valuable personal property. *Id.*

The Court recounted that the "key pieces of circumstantial evidence relied upon by the State are: (1) the marital relationship between Burgess and Lollis; (2) Lollis' alleged financial trouble; (3) his placement of valuables in the storage room; and (4) his possession of the storage key on the day of the fire. *Id.* Looking at this evidence in the light most favorable to the State, the Supreme Court held that the State presented no evidence of financial difficulties and that "the possession of the key does nothing more than arouse suspicion of Lollis' guilt, and is an improper basis to deny a motion for directed verdict." *Id.*

The Existence of Circumstantial Evidence Tending to Prove Guilt

Looking at the evidence in Appellant's case in the light most favorable to the State, the most compelling circumstantial evidence of guilt is that Appellant's clothes, and one slipper, worn on the day of the fire tested positive for trace elements of gasoline, the same ignitable fluid found at the location of the front porch fire. Tr. p. 771, l. 19 - 772, l. 2-14.

At most the presence of the gasoline, places Appellant on her front porch during the life of the fire. Unlike in *Bennett* or *Pearson*, her presence at the fire would be expected. Moreover, multiple witnesses testified that Appellant was standing on or around the front porch fire while it was still active. Tr. p. 360, ll. 3-24; Tr. p. 329, l. 11 - 333, l. 8.

Gasoline was the only ignitable liquid that Appellant's one slipper and her clothes had in common with the fires. Tr. p. 771, l. 1 - 775, l. 7. Neither fire had traces of the medium petroleum distillate found on all of Appellant's clothing and shoes. Nor the toluene found on one of Appellant's slippers. The back porch-sunroom fire contained a mixture of a heavy petroleum distillate and a heavy aromatic product, neither liquid were found on Appellant's slippers and clothing.

Other forensic evidence includes the inconclusive results of the DNA tests on the gloves. All three gloves tested positive for a mixture of male and possibly female DNA. Tr. p. 707, l. 7 - 710, l. 22. Even in the light most favorable to the State, all three gloves had to be handled by a male at some point. Of the fingerprints found on her gun safe, one belonged to Appellant. The other was never identified as it did not match the prints of anyone expected to be in the house. Tr. p. 720, l. 13 - 721, l. 22.

Like in *Lollis*, the remaining evidence against Appellant consisted entirely of the investigators' hunches and unconfirmed suspicions. Just hours after the fire, Gonzales, Cannon, and Morgan all "felt" that Appellant was not sufficiently upset by the fire and attempted burglary. Tr. p. 426, l. 1 - 428, l. 6. According to them, she was too calm in her retelling of events and must have staged the attempted burglary so that she could burn down her house. Tr. p. 473, l. 3 - 475, l. 23.

To bolster their theory, the investigators claimed the damage done to the steel gun safe by the small hatchet found next to it appeared superficial in their opinion. Tr. p. 877, l. 13 - 878, l. 10. They believed that a man would have inflicted more damage to the steel safe. *Id.* There were no fingerprints on the hatchet. Tr. p. 890, ll. 3-8.

The Non-Existence of Evidence Tending to Prove Guilt

The second part of the directed verdict analysis is the non-existence of evidence from which Appellant's guilt could be inferred. *Brown*, 360 S.C. at 586, 602 S.E.2d at 395. First and foremost in Appellant's case, there was no motive for Appellant to attempt to burn her house down.

The prosecutors made vague references to Appellant seeking publicity for a book, but produced no evidence or testimony at trial to support the claim. Tr. p. 303, l. 25 - 304, l. 12; Tr. p. 1028, l. 14-20. Investigator Cannon even dismissed this theory. Tr. p. 922, l. 15 - 923, l. 15; Tr. p. 965, l. 11 - 966, l. 19. Appellant gave no public interviews, issued no public statements, and held no press-conferences. *Id.*

There was no financial motive. Appellant's husband received a six-figure income from a trust fund, in addition to his state trooper salary. Tr. p. 748, l. 1 - 752, l. 11. She had several hundred thousand dollars from her legal settlement with Oconee County. Far from being a financial windfall, all the evidence presented as trial tended to show that the fire had been a traumatic event and then a great inconvenience. Tr. p. 743, l. 9 - 750, l. 21.

Second, like the lack of a motive, there was no evidence presented at trial that Appellant prepared her home for the fire by moving family heirlooms or valuable property away from the front porch and sunroom in order to reduce the material loss. *Id.*; *Cf: Lollis*, 343 S.C. at 584-585, 541 S.E.2d at 256-257. Under the State's theory, Appellant started two fires in front of or adjacent to the major exits of her home while she and her six pets, whom she cared deeply for, were inside.

Third, unlike in *Pearson*, the State produced no evidence tending to show that Appellant actually lied to police. Instead, Investigators Cannon, Gonzales, and Morgan again repeatedly

that stressed they "felt" that she burned her house down because she was insufficiently upset by attempted burglary arson. Tr. p. 425, l. 20 - 426, l. 7; Tr. p. 473, l. 3 - 475, l. 23. By contrast in *Pearson*, the defendant denied that he had any contact with the victim's vehicle, knew the victim, or knew where he lived. 415 S.C. at 474, 783 S.E. at 808. The defendant also denied knowing a co-defendant. *Id.* On each of these points, the State was able to produce evidence rebutting the defendant's claim and from which the jury could infer that the defendant had lied. *Id.*

Finally, Appellant never changed her story of how the attempted burglary and arson occurred. Investigator Cannon's parsing of the exact phrasing of Appellant's 911 call required a ridiculously circumstance where the burglars demanded Appellant open the safe, while simultaneously allowing her to call 911. Apart from his unique interpretation of the 911 call and the investigators' inchoate "feelings", the State had no evidence that Appellant ever lied.

The "key pieces of circumstantial evidence relied upon by the State" were (1) the gasoline; (2) that police felt Appellant was not sufficiently distraught about the attempted burglary and fire when interviewed several hours after the fire was extinguished; and (3) that police believed a hatchet mark on the steel gun safe in her garage was "too slight" to have been made by a man attempting to break into it. *See Lollis,* 343 S.C. at 584-585, 541 S.E.2d at 256-257.

This circumstantial evidence, at most raises a mere suspicion of Appellant's guilt from which no rational juror could infer Appellant's guilt. *Mitchell,* 341 S.C. 406, 409, 535 S.E.2d 126, 127. Therefore, the trial court erred in refusing to grant a directed verdict on Appellant's indictments for making a false insurance claim to obtain benefits for fire or explosion loss; burning personal property to defraud an insurer; filing a false police report; and third degree arson.

II.

The trial court committed reversible error by allowing Investigator Ben Cannon to testify as an expert in the "origin and cause of fires" when the State failed to demonstrate that Cannon had the necessary knowledge, skill, experience, training, or education to give opinion testimony.

Relevant Facts

The State sought to qualify Investigator Cannon as an "expert in arson cause and origin." Tr. p. 849, ll. 17-19. Cannon had ten years of law enforcement experience, but had only been assigned to lead arson investigations in October 2011, eight months before the fire at Appellant's house. Tr. p. 848, l. 1-24.

He testified that he had visited the National Fire Academy in Maryland for a two week course and had taken several online courses in arson investigations. *Id.* He alleged that he participated in approximately forty hours of continuing education a year. *Id.* He claimed that he had investigated roughly fifty residential fires.

Defense counsel objected, arguing that Cannon lacked the necessary qualifications, education, and expertise to be qualified as an expert in arson investigations. Specifically, defense counsel noted that Cannon was not a member or certified by any recognized association of arson investigators. *Id.*

During *voir dire*, Cannon admitted that he was not a member of any professional organization and had not received any professional certifications for arson investigation. Tr. p. 850, l. 20 - 851, l. 11. Cannon countered that to complete his class at the National Fire Academy, participants had to pass an exam with a "certain percentage". Tr. p. 851, ll. 9-15. He never testified when he attended the National Fire Academy Class or if he passed his course. He testified that he had a high school diploma. Tr. p. 856, ll. 10-16.

When pressed by defense counsel, **Cannon admitted that the vast majority of his arson investigation training and classes occurred after the fire at Appellant's home.** Tr. p. 851, l. 20 - 853, l. 20. In fact at the time of the fire, Cannon had only taken two online classes. *Id.* One was in fire scene safety. The other in fire scene digital photography. Tr. p. 853, l. 12 - 854, l. 11. Troublingly, when asked to explain the topics of the various classed he attended, Cannon posited "I'm pretty sure most of 'em have to do with fire." Tr. p. 852, l. 20.

At the time of the fire, Cannon had not taken classes titled, "Fire Arson and Origin Investigation," and "Fire Pattern Certification."Tr. p. 852, l. 9 - 853, l. 21. The dates of other online classes, like "Introduction to Fire Investigation," were not provided on his C.V. Tr. p. 851, l. 16 - 852, l. 8.

Cannon could not remember how many of the fifty residential fires he had investigated before the fire at Appellant's house, but he was sure that this was not his first case. Tr. p. 855, l. 25 - 856, l. 9. He reluctantly admitted that he had only testified in one prior arson case. Tr. p. 856, ll. 17-24.

After *voir* dire and brief arguments by counsels, the trial court found that Cannon was qualified as an expert in arson cause and origin based on the experience Cannon accrued in the interval between the fire and Appellant's trial. Tr. p. 859, l. 14 - 860, l. 19.

Cannon's Expert Testimony

Cannon concluded the fires had started as Appellant had claimed they did. Namely, that someone had poured gasoline on a dog bed found on the front porch by the front door and that the rear fire had been started by someone pouring a mixture of heavy petroleum distillate and heavy aromatic product. Tr. p. 872, ll. 7-21. **He simply believed that she had started the fires,** not three burglars.

Cannon recalled how he and fellow arson investigation unit member Gonzales collected samples from areas of the front porch and back porch-sunroom where the accelerant detection dog had "alerted" to the possible presence of ignitable liquids. Tr. p. 871, ll. 7-24; Tr. p. 874, l. 2 - 876, l. 2. Cannon did not collect a control sample from around the fire areas, samples were only collected where the dog "alerted".

He admitted that he could have taken eight to ten samples from the areas because the dog was "alerting" to large parts of both porches. Tr. p. 871, ll. 18-22. He never explained why he only took four samples. *Id.* Cannon was not concerned about possible contamination of the crime scene and was unconcerned that SERPRO was at the house for five hours before the second search as he did not see that anything had been moved when he returned. Tr. p. 878, l. 15 - 879, l. 18.

The State asked Cannon to name the four classifications of fire. He struggled to name all four, but proffered that the fire at Appellant's house had obviously been intentionally set. Tr. p. 890, ll. 9-23. He also testified that he did not believe this was a concealment fire as it was not started in the garage. Tr. p. 891, l. 5 - 892, l. 4. Large portions of his trial testimony addressed his suspicions about Appellant based on her perceived lack of emotion when interviewed about the fire. Tr. p. 426, l. 1 - 428, l. 6.

Under Rule 702, SCRE, the trial court exercises a gatekeeping function to prevent unreliable expert testimony from reaching the jury.

All expert testimony must satisfy the Rule 702, SCRE, criteria. *State v. White*, 382, S.C. 265, 270, 676 S.E.2d 684, 686 (2009). This inquiry requires that the proposed expert testimony meets a threshold level of reliability. *Id.* Evaluating the reliability of the proposed expert testimony is the central concern of Rule 702 admissibility. *State v. Jones,* 343 S.C. 562, 572, 541

S.E.2d 813, 818 (2001); *Kumho Tire Co., Ltd. v. Carmichael,* 526 U.S. 137, 147, 119 S.Ct. 1167, 143 L.Ed.2d 238 (1999).

With respect to reliability of scientific expert testimony and evidence, the trial court must examine the following factors: (1) publications and peer reviews of the technique used by the expert; (2) prior application of the method to the type of evidence involved in the case; (3) quality control procedures used to ensure reliability; and (4) the consistency of the method with recognized scientific laws and procedures. *State v. Jones,* 273 S.C.723, 731-732, 259 S.E.2d 120, 124-125 (1979).

In the discharge of its gatekeeping role, a trial court must also assess an expert's qualifications before determining if the expert's proposed testimony is sufficiently reliable. *State v. Tapp,* 398 S.C. 376, 389, 728 S.E.2d 468, 475 (2012) (holding that trial court committed reversible error in permitting testimony from criminal profiler without first assessing his qualifications as an expert).

The evolution of fire investigations and forensic science.

Determining the cause and origin of fires is an area of scientific expertise.[1] *U.S. v. Hebshie,* 754 F. Supp. 89, 112-128 (D. Mass. 2010) (granting *habeas* where defense counsel was deficient for failing to challenge State's arson expert who relied on scientifically unsupported methods of investigation). Until recent years, fire and explosion investigations had historically been treated as an area of experience based or non-scientific expertise. *Id.*; *see also Landry v. State,* 2016 UT App 164, ¶ 36 (holding that counsel was ineffective for not hiring defense expert to testify as to unsound

[1] For an in-depth analysis of the history of fire investigation *see*: John J. Lentini, *The Evolution of Fire Investigation and Its Impact on Arson Cases,* 27 Crim. Just., Spring 2012; Lentini, *Scientific Protocols for Fire Investigation,* CRC Press, 2006; Jennifer E. Laurin, *Criminal Law's Science Lag: How Criminal Justice Meets Changed Scientific Understanding,* 93 Tex. L. Rev. 1751 (2015)

investigative methods of fire marshal); *see also* Rachel Dioso, *Scientific and Legal Developments in Fire and Arson Investigation Expertise in Texas v. Willingham*, 14 Minn. J.L. Sci. & Tech. (2013).

Many of the errors in past fire investigations were the result of the fire investigator's law enforcement background combined with a lack of scientific training and research. National Research Council, *Strengthening Forensic Science in the United States: A Path Forward,* (National Academies Press 2009); *see also* Paul C. Giannelli, *Junk Science and the Execution of an Innocent Man*, 7 NYU J.L. & Liberty 221 (2013).

Having recognized these problems in fire investigations, the National Fire Protection Association ("NFPA") first published its *Guide for Fire and Explosion Investigations* ("NFPA 921") in 1992 to "establish guidelines and recommendations for the safe and systematic investigation or analysis of fire and explosion incidents. . . This document has been developed as a model for the advancement and practice of fire and explosion investigation, fire science, technology and, methodology." NFPA 921 § 1.2; *see Jones*, 343 S.C. at 574-575, 541 S.E.2d at 820-821 (endorsing reliability factors for scientific evidence such as: publications and peer reviews, prior application of method to the type of evidence at issue, quality control produces, and consistency of method with recognized scientific laws and procedures)

The NFPA has also published a professional standards guide for fire investigators, NFPA 1033 - *Standard for Professional Qualifications for Fire Investigator* identifying the "minimum job performance requirements for serving as a fire investigator." NFPA 1033 § 1.2.1; *State v. Chavis,* 412 S.C. 101, 771 S.E.2d 336 (2015) (holding that State failed to show expert witness was sufficiently reliable so as to provide opinion testimony when there was no proof that witness was able to draw accurate conclusions from her investigative techniques).

These two publications are regularly updated and have gained wide acceptance among state and federal courts as authoritative texts for fire investigation. *See State Farm Fire & Cas. Co. v. Steffen,* 948 F. Supp. 2d 434, 442 (E.D. Pa. 2013); *Fireman's Fund Ins. Co. v. Canon U.S.A., Inc.*, 394 F.3d 1054, 1057–58 (8th Cir.2005); *Michigan Millers Mut. Ins. Corp. v. Benfield*, 140 F.3d 915, 920 (11th Cir. 1998); *Farmland Mutual Insurance Companies v. Chief Industries*, 170 P.3d 832 (Colo. App. 2007); *Perry Lumber Co., Inc. v. Durable Services, Inc.*, 710 N.W.2d 854 (Neb. 2006).

In cases where a fire investigation has deviated greatly from the NFPA 921 practices or where a fire investigator manifestly lacks the necessary professional qualifications, courts have found their testimony inadmissible. *See Fireman's Fund Ins.,* 394 F.3d at 1058 (holding district court's exclusion of expert arson evidence proper where experts failed to compare hypothesis to evidence from scene in violation of NFPA 921); *Mich. Millers,* 140 F.3d at 920 (finding no abuse of discretion where trial court excluded arson expert's testimony because his methodology did not support his conclusion); *Ind. Ins. Co. v. Gen. Elec. Co.,* 326 F.Supp.2d 844, 850–51 (N.D.Ohio 2004) (holding that cause-and-origin expert's failure to properly collect evidence, in violation of NFPA 921).

Investigator Cannon's inadequate education, training, and experience resulted in the use of unreliable and discredited investigation techniques.

Cannon had almost no experience and training as an arson investigator at the time of the fire. He had been an arson investigator for only seven months. Tr. p. 848, l. 1 - 856, l. 24. The only two classes he had taken at that time were on fire scene digital photography and fire scene safety. *Id.* By way of comparison, NFPA 1033 § 1.3.7 lists sixteen topics that an investigator "shall have and maintain an up-to-date basic knowledge of . . . **beyond the high school level.**" The subjects are: fire science, fire chemistry, thermodynamics, thermometry, fire dynamics,

explosion dynamics, computer fire modeling, fire investigation, fire analysis, fire investigation technology, fire investigation methodology, hazardous materials, failure analysis and analytical tools, fire protection systems, evidence documentation, collection, and preservation, and electricity and electrical systems. *Id.*

Prior to Appellant's trial, Cannon had only testified in one arson case. *Id.* Furthermore, the State presented no evidence that Cannon had taken any science classes beyond the high school level. Tr. p. 856, ll. 10-16. Disconcertingly, Cannon struggled to name the four different classifications of fires and exhibited no concern for potential contamination of the home. Tr. p. 878, l. 15 - 879, l. 18; Tr. p. 890, ll. 9-23.

Cannon's lack of experience, education, and training was reflected in his investigative methods. Cannon collected no control samples for comparison to the charred wood, clothing, and slippers that were collected. Tr. p. 546, l. 7 - 552, l. 5. State Farm's investigator Phil Brooks and SLED technician Megan Fletcher both testified that without comparison samples the presence of ignitable liquids on the charred wood, clothing, and slippers was of almost no evidentiary value. Tr. p. 774, ll. 15-25; Tr. p. 837, ll. 12-24. Likewise, the NFPA 921 emphasizes the need for comparison or control samples:

> **The collection of comparison samples is especially important in the collection of materials that are believed to contain liquid or solid accelerants.** For example, the comparison sample for physical evidence consisting of a piece of carpeting believed to contain a liquid accelerant would be a piece of the same carpeting that does not contain any of the liquid accelerant. Comparison samples allow the laboratory to evaluate the possible contributions of volatile pyrolysis products to the analysis and also to estimate the flammability properties of the normal fuel present.

NFPA 921 § 14.5.3.4.

Without a comparison sample, finding gasoline and a medium petroleum distillate on Appellant's slippers was of almost no evidentiary value. *See Hebshie*, 754 F. Supp. 2d. at 111-112, 124-125(holding that a lack of comparison sample "fundamentally undermined" the state investigator's conclusions as to the cause and origin of the fire). However, due to his lack of training, education, and experience, Cannon treated the presence of gasoline on the slippers as definitive proof of Appellant's guilt. Tr. p. 652, l. 14 - 653, l. 7.

Cannon's investigation also failed to follow national fire investigation standard practices by not employing the scientific method. NFPA 921 § 4. They did not interview all known witnesses, including the firefighters who extinguished the fire. Tr. p. 869, ll. 15-22; *Cf.* NFPA 921 § 18.3.3.15. The investigators prematurely released the fire scene, greatly increasing the likelihood of contamination during their second search. *Cf.* NFPA 921 § 17.4-17.5. Their sampling collection methods were improper, leading Cannon and the other investigators to misinterpret test results. Tr. p. 652, l. 14 - 653, l. 7; *Cf.* NFPA 921 § 4.4.3; *see also* NFPA 921 § 17.5.

Cannon did not wait for the results of all the forensic tests before reaching a conclusion and arresting Appellant. NFPA 921 § 4.3; *see also* NFPA 921 § 21.5. The investigators failed to preserve evidence, such as receipts and video footage from Lowe's that would have allowed another investigator to replicate their investigation and test their conclusions, and Cannon did not seek to have his conclusions peer reviewed. *Cf.* NFPA 921 § 4.63.

As a result, Cannon and the other investigators were almost immediately captured by expectation bias. Six hours into the investigation, they simply believed, based on inchoate suspicions about Appellant's calm demeanor that Appellant had started the fire and lied about the attempted burglary. Tr. p. 877, l. 13 - 880, l. 23.

This is well recognized phenomenon in arson investigation:

> **Expectation bias is a well-established phenomenon that occurs in scientific analysis when investigator(s) reach a premature conclusion without having examined or considered all of the relevant data.** Instead of collecting and examining all of the data in a logical and unbiased manner to reach a scientifically reliable conclusion, the investigator(s) uses the premature determination to dictate investigative processes, analyses, and, ultimately, conclusions, in a way that is not scientifically valid **The introduction of expectation bias into the investigation results in the use of only that data that supports this previously formed conclusion and often results in the misinterpretation and/or the discarding of data that does not support the original opinion.** Investigators are strongly cautioned to avoid expectation bias through proper use of the scientific method

NFPA 921 § 4.3.7-9 (*emphasis added*). Instead of taking steps to avoid poisoning their investigation with premature conclusions about Appellant's guilt, Cannon's investigation embraced it and developed it into the center piece of the state's case against Appellant.

Evidence suggesting that Appellant was not responsible for the fire was dismissed or ignored: (1) lack of a motive, (2) the unknown cell-phone found by the road in front of the house, (3) the two footprints in the front yard, (4) the unknown fingerprint found on Appellant's safe, (5) the two men purchasing the same model yellow gas, and (6) the unexplained red pick-up truck with an empty utility trailer in the neighborhood at the time of the fire.

Cannon's investigation conducted in a manner totally contrary to the scientific method and nationally recognized arson investigation standards. His failure to conduct a sound fire investigation was a direct reflection of the fact that he manifestly did not possess the necessary, education, training, and experience required of an "expert in the origin and cause of fires." Tr. p. 849, l. 20 - 858, l. 24.

Accordingly, the trial court committed an abuse of discretion by ruling that Cannon had the necessary experience and used sufficiently reliable methods when investigating the fire so as to

qualify as an expert on the cause and origin of fire. *See Chavis,* 412 S.C. at 108, 771 S.E.2d at 339; *see also Jones,* 273 S.C. at 731-732, 259 S.E.2d at 124-125; 5.

III.

The trial court reversibly erred in admitting evidence of the accelerant detection dog's "alert" to Appellant's slippers, and subsequent test results, where the search was not conducted within a reasonable amount of time after the fire so as to prevent Appellant's clothing from becoming contaminated and where Gonzales lacked the necessary knowledge to properly employ the dog or test the dog's reliability.

Relevant Facts

During the second search of Appellant's home, some five hours after it had been turned over by police to SERVPRO and eight hours after the fire, an accelerant detection dog being led through the house by Investigator Gonzales for a second time and "alerted" to a pair of Appellant's slippers in the master bedroom indicating that they may contain ignitable liquid on them. Tr. p. 546, l. 7 - 552, l. 5. According to Gonzales, the dog did not "alert" anywhere else in the house. *Id.* No comparison samples of other shoes owned by Appellant were seized for testing. *Id.*

At trial, the State moved to qualify the accelerant detection dog as a reliable means of detecting ignitable liquids through Gonzales. Tr. p. 539, ll. 5-10. The State produced certificates from the "North the North American Police Work Dog Association" stating that Gonzales and the dog had completed their ignitable liquid training. Tr. p. 536, l. 12 - 538, l. 9. The certificate listed the household items that the dog was trained to detect, including "Charhoal." Tr. p. 583, l. 3 - 584, l. 17. The dog was first certified in March, 2011, only three months before the fire. Tr. p. 536, l. 12 - 538, l. 9.

Gonzales explained that the dog is rewarded when it alerts to the presence of ignitable liquid. *Id.* During training, the handler knew the location of all ignitable liquids in the test area and the dog was rewarded when it "alerted" an area where the trainer knew there was ignitable liquid. When the dog "alerted" to an area where the trainer knew there were no liquids it was not

rewarded. However, when deployed at Appellant's home, Gonzales rewarded the dog every time it "alerted" despite not knowing if the "alert" was correct. Tr. p. 560, l. 18 - 56, l. 25.

Gonzales assured the court that the dog had never had a false positive "alert" for an ignitable liquid in the hundreds of fires that they had worked. Tr. p. 547, l. 2 - 548, l. 25. He provided no supporting documentation. Gonzales discounted the risk of contamination at Appellant's home because the "liquid gasoline pool there, [on the front porch had] . . . already burned off." Tr. p. 632, l. 25 - 633, l. 18. Gonzales apparently believed that once the fire had been extinguished, the ignitable liquids in the fire could not be transferred to clothing or other objects. *Id.*; Tr. p. 601, l. 16 - 602, l. 11.

This assessment of contamination contrasted sharply with that of Deputy Brian Osborne, who arrived at Appellant's home during the fire with a police tracking dog, but did not attempt to track the burglars with the dog because of the "amount of contamination in the yard between the firefighters and everything going on." Tr. p. 401, ll. 7-13.

Moreover, photographs taken of the master bedroom showed that the slippers had been moved at point after SERVPRO had started the cleaning process, but before the dog "alerted" to them. Tr. p. 615, l. 10 - 617, l. 4. Multiple witnesses also testified that Appellant had been standing in and around the front porch fire while it was still active.

Samples taken from the front porch fire, Appellant's clothes, and one of the slippers tested positive for gasoline. Tr. p. 772, ll. 2-14. Additional photographs showed the accelerant detection dog lying in the area of the fire on the front porch during an earlier visit to Appellant's house. During the first search of Appellant's house, the police decided not to take samples from many parts of the front and back porch where the dog "alerted." Tr. p. 871, ll. 15-25.

The admissibility of dog tracking evidence in South Carolina.

"Reliability is a central feature of Rule 702 admissibility . . . ." and the court must "mak[e] a threshold determination for purposes of admissibility." *State v. White*, 382 S.C. 265, 270, 274, 676 S.E.2d 684, 686, 688. Scientific evidence is only admissible if the Court determines that: "(1) the evidence will assist the trier of fact; (2) the expert witness is qualified; (3) the underlying science is reliable; and (4) the probative value of the evidence outweighs its prejudicial effect." *State v. Jones*, 343 S.C. 562, 572, 541 S.E.2d 813, 818.

To determine whether the underlying science is reliable, the Court must take into consideration the following factors: "(1) the publications and peer reviews of the technique; (2) prior application of the method to the type of evidence involved in the case; (3) the quality control procedures used to ensure reliability; and (4) the consistency of the method with recognized scientific laws and procedures." *Id.* at 573, 541 S.E.2d at 819.

In *State v. White*, the South Carolina Supreme Court set forth a test regarding the admissibility of dog tracking evidence: (1) the evidence must show that the dog handler satisfies the qualifications of an expert pursuant to S.C. R. Evid. 702; (2) the evidence must show that the dog "is of a breed characterized by an acute power of scent"; (3) the dog must be "trained to follow a trail by scent"; (4) "by experience the dog is found to be reliable"; (5) "the dog was placed on the trail where the suspect was known to have been within a reasonable time"; and (6) "the trail was not otherwise contaminated." *Id.* at 272; 667 S.E.2d at 687.

The use of accelerant dogs in fire investigations and the admissibility of accelerant detection dog evidence in other jurisdictions.

South Carolina courts have not rule whether testimony on the use of an accelerant detection dogs is admissible. Other jurisdictions have found testimony regarding accelerant detection dogs to be admissible **when their reliability is sufficiently established.** *State v.*

Buller, 517 N.W.2d 711 (Iowa 1994) (holding that dog handler's expert testimony concerning reaction at fire scene of dog trained in fire accelerant detection was admissible because foundation for expert testimony had been shown by evidence establishing handler's expertise, dog's training and general accuracy of dog's reaction during investigations.); *State v. Sharp*, 928 A.2d 165 (N.J. Super Law. Div. 2006) (in the absence of laboratory confirmation, opinion from state's expert that accelerant-detection canine's alert to several locations at fire scene indicated presence of an accelerant was inadmissible).

Discussion

Here, the State failed to present sufficient evidence that the use of the accelerant detection dog to detect ignitable liquid on Appellant's slippers was reliable or that Investigator Gonzales had the necessary skill to properly handle the dog.

Turning to the *White* factors, the nearly eight hour interval between the fire and the second search by the accelerant detection dog means that the dog was not deployed inside the house within a reasonable amount of time. 382 S.C. at 272, 667 S.E.2d at 687 (that "the dog was placed on the trail where the suspect was known to have been within a reasonable time" and that "the trail was not otherwise contaminated.").

The fire began at around 8:00 a.m. and was extinguished by 9:00 a.m. The police turned the house over to SERVPRO at 12:20 p.m. The police began their second search of Appellant's house around 5:00 p.m. By the time the dog "alerted" to Appellant's slippers the home had been completely contaminated. The police had released the home to SERVPRO five hours prior to the search beginning. Tr. p. 834, l. 20 - 836, l. 20. Moreover, photographs of the master bedroom showed that the slippers had been moved. *Id.*

At trial, Gonzales appeared to be oblivious to the risk of fire scene contamination. He erroneously believed that once the fire had been extinguished, ignitable liquids from the fire could not be transferred to other items. Tr. p. 632, l. 25 - 633, l. 18; Tr. p. 601, l. 16 - 602, l. 11. *Cf:* NFPA 17.5.4 (Collection of Evidence for Accelerant Testing). By contrast, Deputy Osborne decided not to deploy his tracking dog during the morning of the fire because any potential tracking was contaminated. Tr. p. 402, l. 14 - 406, l. 20.

Releasing the home to SERVPRO to begin clean-up before completing the investigation violated fire investigation protocols designed to protect evidence and to minimize the risk of contamination. NFPA 921 § 17.3.1-2 ("The entire fire scene should be considered physical evidence and should be protected . . . lack of preservation may result in the destruction, contamination, loss, or unnecessary movement of physical evidence.").

"[T]he fire investigator should secure or ensure the security of the fire scene from unnecessary and unauthorized intrusions and should limit fire suppression activities to those that are necessary." *Id.* at § 17.3.1.3; *see also Id.* at § 17.3.5.3.3 ("moving, and particularly removing, contents and furnishings or other evidences at the fire scene should be avoided until the documentation, reconstruction, and analysis are complete.").

In addition to the obviously high risk of contamination to the slippers caused by the unreasonable delay in conducting the second search, Gonzales also clearly lacked the necessary training, skills, and experience to properly use the accelerant detection dog or assess its reliability. Gonzales and the dog completed training only three months before the fire. Tr. p. 536, l. 12 - 538, l. 9. Gonzales claimed that the dog had never produced a false positive. *Id.*

However, by only collecting samples from areas where the dog had "alerted" Gonzales had no way of knowing whether the dog has missed the presence of an ignitable liquid, a "false

negative" result. *See also*: NFPA 921 § 14.5.3.5 (accelerant detection dogs "assist with the selection of samples that have a higher probability of laboratory confirmation **than samples selected without the canine's assistance**." (*emphasis added*). The failure to collect comparison sample is particularly troubling because Gonzales claimed that during their search of the entire house the dog only alerted to the slippers.

Given that the liquids that the dog has been trained to detect are found in numerous household items, it seems implausible that such substances would only be found on one pair of slippers. NFPA 921 § 14.5.3.5 ("unlike explosive-or drug-detecting dogs, these canines are trained to detect substances that are common to our everyday environment.... [M]erely detecting such quantities [without a comparison sample] is of limited evidential value.)". Furthermore, contrary to how the dog was trained, Gonzales apparently rewarded the dog whenever it "alerted" without knowing whether the "alert" was valid. Tr. p. 560, l. 18 - 56, l. 25.

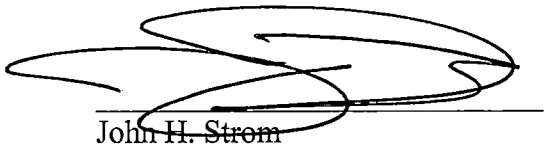
For all of these reasons, the second accelerant dog search fails the reliability test set out in *State v. White*, 382 S.C. at 272, 667 S.E.2d at 687. The continuous activity at Appellant's home, including five hours of clean-up and restoration work by SERVPRO, during the eight hour interval between the fire and the second search "otherwise contaminated" the home and constituted an unreasonable delay of law enforcement's own making.

Gonzales patently lacked the skills, training, and experience to reliably handle the accelerant detection dog. *Jones*, 343 S.C. at 572, 541 S.E.2d at 818. Simply put, without a comparison sample the slippers are of no evidentiary value. The failure to take comparison samples resulted in the probative value of the gasoline found on the one slipper being substantially outweighed by the prejudicial impact of this information samples.

Accordingly, the trial court committed an abuse of discretion and reversibly erred in permitting Investigator Gonzales to testify about the accelerant detection dog's "alert" to Appellant's slippers, and in admitting the subsequent test results, where the search was not conducted within a reasonable amount of time after the fire so as to prevent Appellant's clothing from becoming contaminated and where Gonzales lacked the necessary knowledge to properly employ the dog or test the dog's reliability.

CONCLUSION

By reason of the foregoing arguments, Appellant Paula Rose respectfully requests that this Court issue an Order of Acquittal on his convictions or, in the alternative, reverse and remand her to the Greenville County Court of General Sessions for a new trial.



John H. Strom
Appellate Defender

ATTORNEY FOR APPELLANT

This 14th day of September, 2016.

STATE OF SOUTH CAROLINA

IN THE COURT OF APPEALS

RECEIVED
SEP 14 2016
SC Court of Appeals

Appeal from Greenville County

Honorable R. Lawton McIntosh, Circuit Court Judge

THE STATE,

RESPONDENT,

V.

PAULA REED ROSE,

APPELLANT

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a true copy of the Initial Brief of Appellant and Designation of Matter in the above referenced case has been served upon J. Benjamin Aplin, Esquire, at the Rembert Dennis Building, 1000 Assembly Street, Room 519, Columbia, SC 29201; and a copy of the Initial Brief of Appellant and Designation of Matter have been served on Paula Reed Rose, at Ms. Paula Reed Rose, 523 Shook Road, Seneca, SC 29672, this 14th day of September, 2016.

John H. Strom
Appellate Defender
ATTORNEY FOR APPELLANT

SUBSCRIBED AND SWORN TO before me
this 14th day of September, 2016.

(L.S)
Notary Public for South Carolina
My Commission Expires: 10/30/2022