

# Cops in Lab Coats



# Cops in Lab Coats

## *Curbing Wrongful Convictions through Independent Forensic Laboratories*

**Sandra Guerra Thompson**

ALUMNAE COLLEGE PROFESSOR OF LAW AND  
DIRECTOR OF THE CRIMINAL JUSTICE INSTITUTE  
UNIVERSITY OF HOUSTON LAW CENTER



CAROLINA ACADEMIC PRESS

---

Durham, North Carolina

Copyright © 2015  
Sandra Guerra Thompson  
All Rights Reserved

Library of Congress Cataloging-in-Publication Data

Thompson, Sandra Guerra.

Cops in lab coats : curbing wrongful convictions through independent forensic laboratories / Sandra Guerra Thompson.

pages cm

Includes bibliographical references and index.

ISBN 978-1-61163-529-4 (alk. paper)

1. Criminal investigation--Texas--Houston. 2. Forensic sciences--Texas--Houston. 3. Judicial error--Texas--Houston. I. Title.

HV6795.H6T46 2015

363.25'60973--dc23

2014044884

CAROLINA ACADEMIC PRESS  
700 Kent Street  
Durham, North Carolina 27701  
Telephone (919) 489-7486  
Fax (919) 493-5668  
[www.cap-press.com](http://www.cap-press.com)

Printed in the United States of America

TO MY PARENTS  
ALFREDO AND THELMA GUERRA  
Whose passion for justice inspires me.



# Contents

Foreword	xi
Acknowledgments	xv
 Chapter One · Bad Science Wreaks Havoc— The George Rodriguez Story	 3
Raped in Houston	3
Tragic Coincidences	4
Beltran's Story Creates a Dilemma	7
Fighting Tunnel Vision	9
Meanwhile Back at the Lab ...	11
Science Convicts	12
Locked Up and Forgotten	14
Saved by a Hair	16
DA Resistance, the Role of the Victim, and Ignoring Occam's Razor	18
Free at Last	22
Rodriguez Sues Houston	24
Notes for Chapter One	27
 Chapter Two · A National Crisis	 35
Choked Budgets, in Good Times and Bad	37
Fraud in the Laboratory and Perjury in Court	39
Drug Thefts	43
Incompetence	44
Cheating on Proficiency Tests and Lying about Credentials	45
Massive Backlogs	46
Cover-Ups	49
Conclusion	51
Appendix 1: DNA Exonerations and Crime Laboratory Scandals by State	52

Appendix 2: Sentences Imposed on the Wrongfully Convicted Whose Cases Involved Invalid Forensic Science	72
Notes for Chapter 2	75
<b>Chapter Three · The Complex Critique of Forensic Science</b>	83
Convicted by Science	83
Police Departments Invent “Sciences” to Solve Crimes	85
Criminal Courts Freely Admit Forensic Testimony	87
Forensic Science—and the Justice System’s Use of It— Finally Come Under Fire	92
The NAS Review of Forensic Disciplines	94
Disciplines with Solid Scientific Support	96
Disciplines with Mid-Range Reliability	97
Fingerprint Examination	98
Firearms Examination	101
The True Battleground: Barring Absolute Individualizations	107
A Separate Problem: Cleaning Up the Junk Science Mess	109
A Path Forward	114
Notes for Chapter 3	116
<b>Chapter Four · The Paradox of the Ethical—and Biased—Analyst</b>	127
Misplaced Kudos	127
The Perils of Operating a Laboratory within a Police Department	128
Motivational Bias from Group Affiliation	129
Unconscious Bias: The Mayfield Affair	133
Scientific Experiments on Cognitive Bias	138
“Blind” Analysts See More Clearly	140
Information on a Need-to-Know Basis	141
Re-imagining the Practice of Forensic Science	143
Notes for Chapter Four	144
<b>Chapter Five · Safeguarding Justice</b>	147
<i>Ipse Dixit</i> Guilt	148
Trial by Lab Report	149
Supreme Indecision	150
<i>Ipse Dixit</i> Convictions Keep Coming	161
Laboratory Reports Are Not Testimonial When Primary Purpose Was Not Accusatory	162
Laboratory Reports Analyzing Evidence Are Non-Testimonial Because They Are Not “Formalized”	163



Laboratory Report Not Testimonial Because Machine-Generated	163
A Different Analyst Testifies to the Results as the Basis of an Expert Opinion	164
An Analyst who Performs a Review Suffices	166
Defense Attorneys May Waive Confrontation Clause Challenges	168
The Drive to Dazzle—the Real “CSI Effect”	168
The Risks of Wrongful Convictions	171
Safeguards besides Cross-Examination	173
First: Clear, Comprehensive Laboratory Reports	174
Second: Enabling the Defense to Review Laboratory Reports	174
Third: Providing Adequate Funding for Forensic Experts to Assist the Defense	175
Notes for Chapter Five	176
<b>Chapter Six · Resisting Independence</b>	181
The NAS Call for Independent Forensic Laboratories	181
Reconsidering the Crime Laboratory Model	183
The NAS Report’s Support for Independent Forensic Science Research	187
Forensic Science Commissions at the State Level	192
Independence Promotes Rigor in Accreditation, Proficiency Testing, and Certification	193
Independent Laboratories Can Serve the Entire Justice System	198
Homeland Security: The Imperative to Reform Crime Laboratories	199
Notes for Chapter Six	200
<b>Chapter Seven · Houston’s Laboratory Experiment</b>	205
Don’t Fix It—Reinvent It	211
Political Negotiations	212
The Process of Transition	214
Setting up Shop	216
Heavy Lifting by HPD	220
A New Day Dawns at the Houston Forensic Science Center	222
“There are people watching who hope you fail...”	223
Glimpsing the Rewards of Independence	225
Notes for Chapter Seven	226

<b>Chapter Eight · Conclusion: Reimagining the Practice of Forensic Science</b>	<b>231</b>
Notes for Chapter Eight	233
<b>Epilogue</b>	<b>235</b>
<b>Glossary</b>	<b>237</b>
<b>Bibliography</b>	<b>241</b>
<b>About the Author</b>	<b>273</b>
<b>Index</b>	<b>275</b>

# Foreword

In 1927, the state of Virginia forcibly sterilized 21-year-old Carrie Buck after scientific “experts” concluded that she was a feeble-minded moral delinquent. According to these so-called authorities, Ms. Buck inherited genetic defects from her mother which she, in turn, passed on to her own infant daughter. Based on manufactured—and later thoroughly discredited—“scientific evidence” against Ms. Buck, the U.S. Supreme Court upheld Virginia’s mandatory sterilization law. Justice Oliver Wendell Holmes famously justified the Court’s decision by quipping that “three generations of imbeciles are enough.”

It’s tempting to view what happened to Carrie Buck as an unfortunate relic of the unsophisticated past. Surely, we think, the methodology and standards applied by scientists today are far superior to those forced upon the unknowing Carrie Buck. Surely, stringent safeguards are now in place that would have exposed the dishonest “experts” who fabricated evidence against her. Surely, today’s judges show more concern for the importance of scientific truth when dealing with fundamental questions of human liberty.

*Cops in Lab Coats* shatters those assumptions. It begins with the powerful story of twenty-six-year-old George Rodriguez, condemned wrongfully for a rape and sentenced to serve a sixty-year term. A single hair, miraculously preserved when the rest of the evidence was discarded, proved his innocence seventeen years later. But Sandra Guerra Thompson is not simply portraying one man’s dramatic rescue from the justice system. She is, instead, describing a broken system—of hundreds, perhaps thousands, of wrongful convictions obtained as a result of shoddy, fraudulent, or otherwise invalid forensic science.

Although this record lends itself to scandal, sensational exposé, and outrage, Professor Thompson instead thoughtfully lays out the causes of those crime lab scandals and argues persuasively that this situation is nothing short of a national crisis. Her analysis of the groundbreaking 2009 report from the National Academy of Sciences casts doubt on the scientific validity of many of the forensic disciplines that shape not only popular crime-scene television dramas but all too real courtroom testimony in which juries determine guilt or innocence.

As I learned from personal experience, however, the release of the NAS report did not dampen the zeal exhibited by some prosecutors to embrace untested “scientific” methods purveyed by self-proclaimed experts in the quest to obtain convictions. Late in 2009, I was horrified to learn that prosecutors planned to use the results of a dog-scent lineup in the upcoming retrial of my client, Anthony Graves, for capital murder. Anthony had been convicted and sentenced to death fifteen years before for the 1992 murder of a family of six in Somerville, Texas. Anthony’s conviction was overturned by the Fifth Circuit Court of Appeals in 2005, but rather than release Anthony, the state elected to retry him. At that point, I was one of the lawyers on Anthony’s legal team.

Four years after the Fifth Circuit’s ruling, however, Anthony still sat in the Burleson County jail, waiting for his retrial. In a last-ditch effort to obtain physical evidence tying Anthony to the crime scene, a deputy sheriff had his dogs smell six items from the burned-out house where the murders had occurred seventeen years before. The deputy reported that after smelling two of the six items, his dogs “alerted” to a gauze pad that had been wiped across Anthony’s skin. According to the deputy, this “proved” that Anthony had been present at the crime scene. Had Anthony’s life not been at stake, the flimsy melodrama would have been laughable. But the defense team dared not treat it as a joke because a Texas appellate court had already ruled that dog-scent lineup evidence was admissible in court. The prosecutors notified us that the deputy’s dog-scent findings would be a key part of the state’s case, even though they knew that the deputy had no formal training, followed no scientific protocols and could present no studies to validate his procedures. Soon afterwards, we learned that the deputy had been sued by several people who had been wrongly convicted thanks, at least in part, to his “infallible” dogs. (Ultimately, in 2010, Anthony was exonerated on the grounds of actual innocence, without having to be retried.)

Had I possessed this book in 2009, I would have been better prepared to fight the admissibility of the dog-scent evidence had Anthony’s case gone to trial. The book’s utility to criminal defense lawyers is obvious. But meaningful criminal justice reforms cannot be achieved simply by educating defense lawyers. This book should be on the must-read list for prosecutors, judges, police officers, forensic scientists, law students, and everyone else affected by the criminal justice system. The solution that Professor Thompson proposes is making crime labs independent of police departments. She does not claim that it will magically solve all problems, but she argues cogently and systematically that it can and will reduce incompetence, unconscious bias toward the prosecution, and improper management in these laboratories. The facts and arguments she presents should reduce the surprising levels of resistance to the concept of

crime lab independence among professional organizations within the forensic science community, as well as federal and state prosecutors and law enforcement agencies.

As a Houstonian, I was embarrassed a decade ago by the crime lab failures that seemed to be featured almost daily in the news. Today, nothing makes me prouder about living in Houston than the willingness of our city leaders, our police department, and our citizens to embrace the concept of crime lab independence. It is our good fortune to have Professor Thompson, an acknowledged expert in wrongful convictions as well as a former prosecutor, serving on the board that oversees the new Houston Forensic Science Center. My fondest wish is that Professor Thompson's detailed description of our city's bold crime lab experiment will provide inspiration, as well as a blueprint, for other jurisdictions to free their crime labs from the control of cops in lab coats.

Nicole B. Cásarez, J.D.  
Professor, University of St. Thomas  
Houston, Texas



# Acknowledgments

So many people played a part in supporting this project. I thank my wonderful husband, Jim Thompson, for doing the initial designs of the book's cover and for encouraging me throughout this project. I owe special thanks to my son, Andy Garcia, for his truly brilliant editing of this book. I am blessed to have a dear friend in Nicole Bremner Cásarez, an expert on wrongful convictions and a fellow member of the Board of Directors of the Houston Forensic Science Center, who wrote the engaging foreword for this book.

Many of my colleagues at the University of Houston Law Center also provide me with professional guidance and other support. Michael A. Olivas, my friend and mentor to whom I owe so much, introduced me both to the editors of Carolina Academic Press as well as to Lavina Fielding Anderson, an enthusiastic professional editor. Two other colleagues nominated me for community boards that have inspired my interest in reforming forensic science to better serve the justice system. Law professor David R. Dow nominated me to serve on the Timothy Cole Advisory Panel for Wrongful Convictions at the state level, and sociology professor Tacho Mindiola nominated me to serve on the Houston Forensic Science Center Board of Directors.

On matters of forensic science, I am also fortunate to have Joseph Sanders as a colleague. Joe, a national expert in forensic science, is always generous with this time and expertise. Another colleague, Mon Yin Lung, the Associate Director of the O'Quinn Law Library at the University of Houston Law Center, provided me with invaluable assistance in tracking down the perfect reference books and manuscripts, and she often worked in the wee hours of the night so as to get them to me promptly. Law librarian Matthew A. Mantel, also provided me with an essential bibliography of forensic science research materials relating to cognitive bias for Chapter 4. Finally, my sincere thanks goes to the University of Houston Law Foundation and Deans Raymond Nimmer and Richard Alderman whose generous support made this project possible.

Several chapters of this book were reviewed by legal scholars, to whom I am truly grateful. In June 2013 at the Law and Society Meeting in Boston, Massachusetts, I received important feedback on Chapter 4 from Seth W. Stoughton,

a Climenko Fellow and Lecturer on Law at Harvard Law School (now a professor at the University of South Carolina School of Law), and Amna Akbar of the Ohio State University Moritz College of Law. At a workshop at Southern Methodist University's Dedman School of Law in January 2014, I received insightful comments on an earlier version of Chapter 3 from Avlana Eisenberg of Harvard Law School, Andrea Roth of Berkeley Law School, and Laurent Sacharoff, of the University of Arkansas Law School. Jennifer E. Laurin of the University of Texas at Austin School of Law and Andrea Roth of Berkeley Law School also kindly reviewed an earlier version of Chapter 3 and provided me with extremely helpful comments. To Jennifer Mnookin, of the UCLA Law School, I am grateful for her guidance through the complicated Confrontation Clause jurisprudence in Chapter 5. Finally, David A. Harris of the University of Pittsburg School of Law helped me understand some of the issues surrounding information systems in laboratories and the possibility of computerizing much of forensic analysis.

I am blessed to have outstanding law students who worked on this project with me: Nisha Ghosh (J.D. 2013), Darrell Moore (J.D. 2013), Preston Scott Ehlers, and Annalise De Frank. They showed initiative and creativity in tracking down materials in other disciplines, in the press, and in the practice world of forensic science, not to mention in traditional legal research materials. To a person, they will be outstanding attorneys.

Several experts across the country have provided guidance and shared their research with me, and I am indebted to them. At the Innocence Project of New York, Sarah Chu provided me insightful editing suggestions for Chapters 3 and 6. She also generously shared her vast knowledge of reform efforts and research in forensic science. At the Los Angeles County Public Defender's Office, I thank Jennifer Friedman who shared an important table she compiled of the case law on *Daubert* hearings raising issues from the National Academy of Sciences Report. Kathryn M. Kase, Executive Director of Texas Defender Service, helped me understand the law and practice of court-appointed forensic experts. Rick A. Sichta, of the Sichta Law Firm in Jacksonville, Florida, generously shared information and documents regarding the death penalty case of Gerald Murray, which he is handling. Finally, to Carson Guy, Research Attorney for Judge Barbara P. Hervey of the Texas Court of Criminal Appeals, I send my sincere thanks for sharing his important research on crime laboratories nationwide.

In my capacity as a member of the Board of Directors of the Houston Forensic Science Center, I have also had the privilege of working with a dedicated group of people. I am grateful to the Chairman of the Board, Scott Hochberg, for his insightful review of Chapter 7. I also must thank First Assistant City Attorney Tom Allen for his guidance on the history of the creation of the Forensic Sci-



ence Center and the plan to transform the Houston Police Department Crime Laboratory. I am also indebted to Irma Rios, Director of the Forensic Analysis Division of the Houston Forensic Science Center, for making arrangements for me to tour the FBI Crime Laboratory and for her guidance on a variety of issues related to Chapter 7. She was also diligent in keeping me informed when HPD Crime Laboratory analysts were scheduled to testify so that I might attend. Dr. Daniel D. Garner, the President and CEO of the Houston Forensic Science Center also generously discussed issue of forensic science validity and shared photographs of the Center's inaugural event. I appreciated his feedback on Chapter 7. At the Houston Police Department, I send a special thanks to Executive Assistant Chief Timothy N. Oettmeier for taking the time to discuss his innovative perspectives on laboratory independence with me and for his helpful review of Chapter 7. I am also grateful to Assistant Chief Matthew D. Slinkard for sharing his detailed outline of the tasks that the Houston Police Department completed in order to make the laboratory's independence possible.

