



O.J. Simpson Trial – A Retrospective

ISFG 2022 Special Session



Special Session:
**O.J. Simpson Trial –
A Retrospective**

Session Chairs:

John M. Butler and Charlotte J. Word

Why this Special Session?

1. With the ISFG meeting being in the United States for the first time in over 20 years, we wanted **to highlight a key case and its impact on our field** and how the general public perceives forensic DNA results
2. Most **primary participants** involved with the DNA testing and testimony in the O.J. Simpson case **are still actively working in the field** and available to participate in the panel
3. Lessons learned from this case **can benefit future efforts with forensic genetics** in the United States and around the world

In Memory of George “Woody” Clarke (1951 – 2012)



- Deputy District Attorney for the County of San Diego from 1982 to 2003
 - Involved in many admissibility hearings with serology and DNA
 - Loaned to the Los Angeles District Attorney's Office and **presented DNA evidence to the jury in the 1995 prosecution of O.J. Simpson**
- Served on the National Commission on the Future of DNA Evidence (1998-2000) and in U.S. Attorney General's Initiative on DNA Laboratory Backlogs (2002)
- Appointed a Judge of the Superior Court for the County of San Diego, California from 2003 until his death in 2012

Session Schedule

- **Introductions and Case Background** – John Butler (5 minutes)
- **Presentations from Each Panelist (~55 minutes)**
 - **Prosecutor Rock Harmon** (20 minutes) – evidence & presentation to the jury
 - **Dr. Robin Cotton** (15 minutes) – DNA testing performed & preparation for trial
 - **Professor Bruce Weir** (10 minutes) – DNA mixture statistics (*by video*)
 - **Judge Chris Plourd** (10 minutes) – impact of the case
- **Discussion and Q&A with Audience (~30 minutes)** – Charlotte Word

Brief Timeline and Overview (1): Collection and DNA Testing

- At the time, O.J. Simpson was a famous U.S. football player and popular movie actor
- **June 12, 1994** : O.J. Simpson's ex-wife Nicole Brown Simpson and her friend Ronald Goldman were stabbed to death outside her condominium in Los Angeles, California
- **June 17, 1994** : O.J. Simpson is arrested
- **DNA testing in three laboratories**
 - Los Angeles Police Department (LAPD)
 - Cellmark Diagnostics (Germantown, Maryland)
 - California Department of Justice (CA DOJ)
- **Used VNTRs (RFLP) & DQ α +PM, D1S80 (PCR)**



“Bundy” crime scene photo at Brown's home

The Defendant

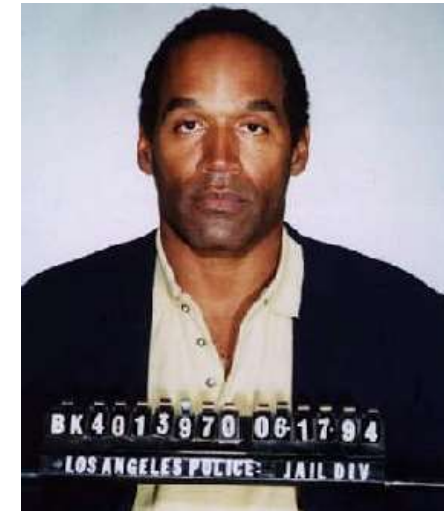
The Victims



Nicole Brown



Ronald Goldman



Simpson's mugshot,
June 17, 1994

Brief Timeline and Overview (2): The Trial and Media

- *Many pre-trial motions and hyper-media attention*
- **January 24, 1995** : the trial begins and called “the Trial of the Century” by the media; *The People of the State of California v. Orenthal James Simpson*
- **May 8-12, 15 1995** : prosecution introduces the DNA evidence with **Dr. Robin Cotton** (Cellmark Diagnostics) as the first witness; *her “classroom” may have had a billion students...*
 - Other DNA testimony: Gary Sims (CA DOJ), Renee Montgomery (CA DOJ)
- **June 22, 23, 26, 1995** : **Professor Bruce Weir** testifies on DNA statistics for several mixtures
- The defense raised sample collection concerns



O.J. Simpson Trial

160 days of trial

May 8: 65th day of trial

June 23: 98th day of trial

1995

Transcripts compiled at <http://walraven.org/simpson/>

(each day is linked to the available transcript)

The Jury's Verdict
([October 3, 1995](#))

January

24	25	26	30	31
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February

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March

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April

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Dennis Fung (LAPD)

Andrea Mazzola (LAPD)

Collin Yamauchi (LAPD)

May

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Greg Matteson (LAPD)

Robin Cotton's DNA Testimony

Gary Sims (CA DOJ)

Renee Montgomery (CA DOJ)

June

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Bruce Weir's Statistics Testimony

July

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August

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John Gerdes (defense expert)

September

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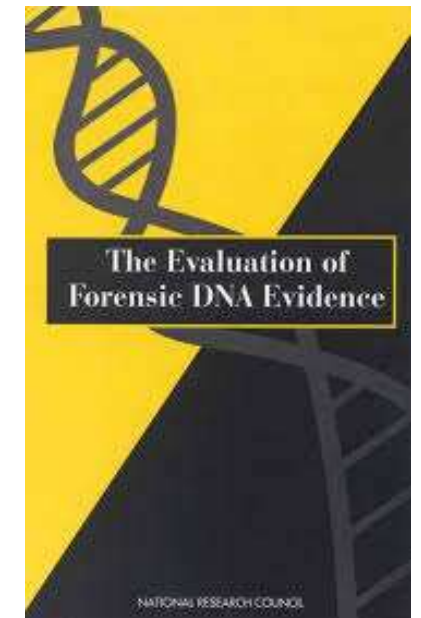
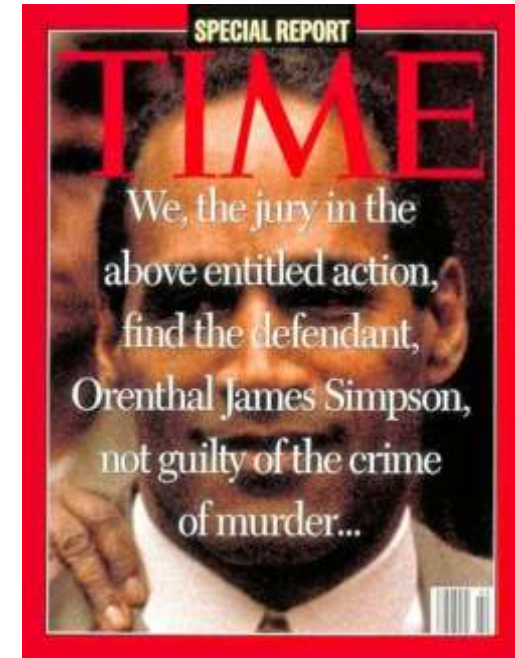
Brief Timeline and Overview (3): The Outcome and Impact

- **October 3, 1995** : jury returned a verdict of not guilty

Civil Trial (October 1996 to February 1997): in the verdict on February 4, 1997, Simpson was found responsible for the deaths of Nicole Brown Simpson and Ronald Goldman, and their families were awarded \$33.5 million in damages

Activities that Followed to Strengthen Forensic Genetics:

- **NRC II** (1996) “The Evaluation of Forensic DNA Evidence”
- **FBI Quality Assurance Standards** developed by the DNA Advisory Board (1998/1999) and updated by SWGDAM (2009, 2011, 2020)
- **NIJ National Commission on the Future of DNA Evidence** (1998-2000)



Important Scientific Articles at the Time

Lander & Budowle, *Nature* (27 October 1994) 371: 735-738

COMMENTARY

DNA fingerprinting dispute laid to rest

Eric S. Lander and Bruce Budowle

Two principals in the once-raging debate over forensic DNA typing conclude that the scientific issues have all been resolved.

THE US public, usually indifferent to matters scientific, has suddenly become obsessed with DNA. Nightly newscasts routinely refer to the polymerase chain reaction (PCR) and even the tabloids offer commentary on restriction fragment length polymorphisms (RFLPs). The new-found fascination with nucleic acids does not stem from recent breakthroughs in genetic screening for breast cancer susceptibility or progress in gene therapy — developments which will indeed affect the lives of millions. Rather, it focuses on the murder case against the former US football star, O. J. Simpson.

The Los Angeles trial, starting in November and to be broadcast live by several major television networks, will probably feature the most detailed course in molecular genetics ever taught to the US people. This bold experiment in public education should, in principle, be a cause for rejoicing among scientists. The catch is that the syllabus is being prepared by attorneys whose primary roles are as adversaries; the likely result is confusion. Already, the news weeklies are preparing the ground with warnings that DNA fingerprinting remains “controversial”, being plagued by major unresolved scientific issues.

Forensic DNA typing certainly did provoke controversy soon after it was intro-

duced. When it first burst on the scene, the supporting scientific literature consisted of a mere handful of papers. By the middle of this year, there had been more than 400 scientific papers, 100 scientific conferences, 3 sets of guidelines from the Technical Working Group on DNA Analysis Methods (TWGDAM), 150 court decisions and, importantly, a 3-year study by a National Research Council (NRC) committee released in 1992 (ref. 2). In the light of this extraordinary scrutiny, it seems appropriate to ask whether there remains any important unresolved issue about DNA typing, or whether it is time to declare the great DNA fingerprinting controversy over.

As co-authors, we can address these questions in an even-handed manner. B.B. was one of the principal architects of the FBI's DNA typing programme, whereas E.S.L. was an early and vigorous critic of the lack of scientific standards, and served on the NRC committee. In a world of soundbites, we are often pegged as, respectively, a “proponent” and an “opponent” of DNA typing. Such labels greatly oversimplify matters, but it is fair to say that we represent the range of scientific debate.

We recently discussed the current state of DNA typing, and could identify no remaining problem that should prevent

printing wars are over.

Our goal is to correct the lingering impression to the contrary. Our analysis below represents our unanimous opinions (apart from specific comments about the workings and intent of the NRC committee itself, which necessarily are based on E.S.L.'s recollection). We focus on the subject most often said to remain problematical: population genetics. Our main thesis is that the academic debate that continues to swirl about population genetic issues is rooted in a misunderstanding of the NRC report and is, in any case, of no practical consequence to the courts. We also touch on how the legal and scientific community should cope with the continuing evolution of DNA typing technology. In particular, we question whether a steady succession of *ad hoc* committees, however distinguished, is a wise solution.

Laboratory practices

The initial outcry over DNA typing standards concerned laboratory problems: poorly defined rules for declaring a match; experiments without controls; contaminated probes and samples; and sloppy interpretation of autoradiograms¹. Although there is no evidence that these technical failings resulted in any wrongful convictions, the lack of standards seemed

Weir, *Nature Genetics* (11 December 1995) 11: 365-368



© 1995 Nature Publishing Group <http://www.nature.com/naturegenetics>

commentary

DNA statistics in the Simpson matter

Bruce S. Weir

On 3 October 1995, O.J. Simpson was acquitted of two murders in spite of very strong DNA evidence linking his blood to the crime. Although numerical statements describing the strength of this evidence were made, the DNA profiles included so many loci that the need for presenting numbers in this case, and in others using similarly high numbers of loci, is probably unnecessary. If numbers are to be presented, however, they should be given in the form of likelihood ratios. One thing the verdict in the Simpson case makes clear is that it is essential that the integrity of DNA evidence (with regard to collection, potential contamination or tampering) be beyond doubt.

On 3 October 1995, Orenthal James Simpson was acquitted of charges that he murdered his estranged wife, Nicole Brown Simpson, and her friend, Ronald Goldman. The evi-

DNA profiling involved Southern analysis of a series of variable number tandem repeat (VNTR) loci that were typed for restriction fragment length polymorphisms (RFLPs) as well as analysis of several other loci amplified by the polymerase chain reaction (PCR). The LAPD analysed only the PCR-amplified locus, *DQ α* . CMD used five VNTR loci: *D1S7*, *D2S44*, *D7S21*, *D7S22* and *D12S11*, the PCR locus *DQ α* and the PCR AmpliType™ PM system, which is a multiplexed set of five loci: low density lipoprotein receptor (*LDLR*), glycophorin A (*GYP*A), haemoglobin G gamma globin (*HBGG*), group-specific component (*Gc*) and *D7S8*. (CMD typed the six PCR loci with a reverse dot blot approach using allele-specific oligonucleotide probes immobilized on a nylon membrane strip.) DOJ used 11 VNTR loci with RFLP typing: *D1S7*, *D1S339*, *D2S44*, *D4S139*, *D5S110*, *D6S132*, *D7S467*, *D10S28*, *D14S13*, *D17S26* and *D17S79*, one VNTR locus with PCR amplification, *D1S80*, and *DQ α* .

The DNA profiles of 45 of the bloodstain samples were presented to the jury, along with demonstrations of matches between the DNA profiles in the stains and the DNA profiles of one or more of the three principals in the case: the defendant OS and victims NB and RG. The different stain samples are referred to as items, and the results of the analyses on these items are presented in Fig. 1. Not all of the 45 items presented as evidence were typed for all of the markers, although the blood samples from all three principals were completely typed.

**Introducing Our
Panel Participants
and Their Role in the
O.J. Simpson Trial**

Prosecutor Rockne Harmon



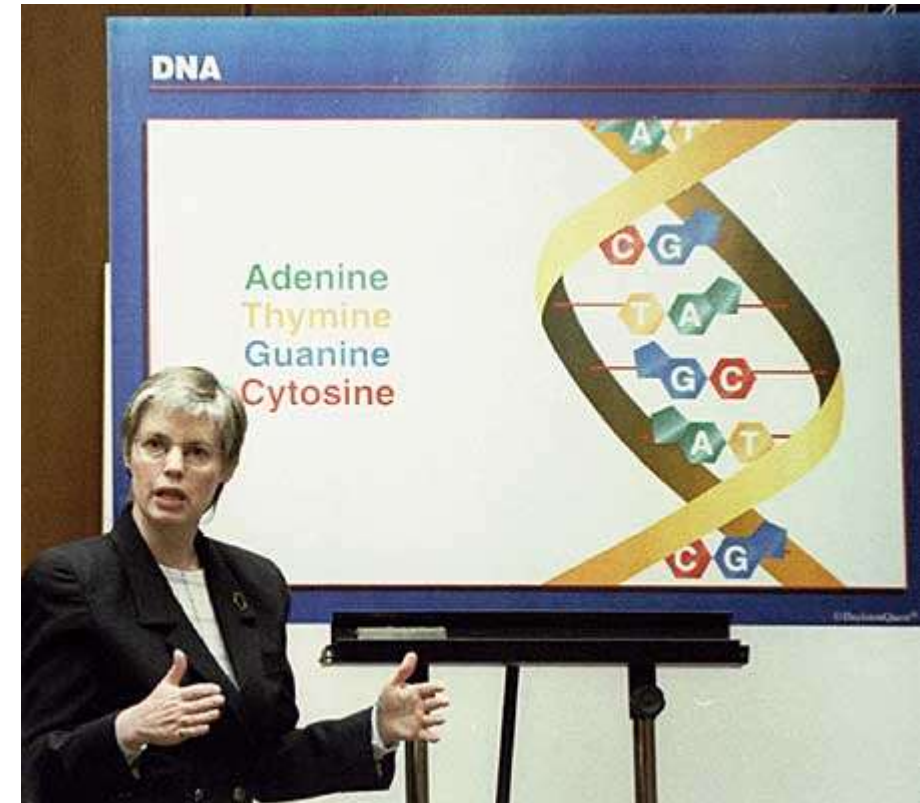
OJ Simpson Trial - May 17th, 1995 - Part 1

<https://www.youtube.com/watch?v=uPze-pHSHfw>

- (Retired) prosecutor in Alameda County, California for 33 years
- Graduated from the US Naval Academy in 1967; awarded a Purple Heart for wounds received in combat during a tour as officer in charge of a Navy Swift Boat in Vietnam
- **Presented DNA evidence in the O.J. Simpson trial along with Woody Clark**

Dr. Robin Cotton

- Laboratory Director at Cellmark Diagnostics, later Orchid Cellmark (1988 to 2006)
- **In the O.J. Simpson trial, she provided a week of DNA testimony (May 8-12, 1995) and another day of cross-examination (May 15)**
- Currently Director of the Biomedical Forensic Sciences Program at Boston University



May 8, 1995: Cellmark Diagnostics lab director Robin Cotton refers to a chart as she explains the concept of DNA to the jury. (Pool photo)

Professor Bruce Weir

- Professor of Statistics at North Carolina State University (1976-2005); currently at the University of Washington (Seattle, WA)
- **In the O.J. Simpson trial, he provided three days of DNA statistics testimony (June 22,23,26, 1995)**
- In 2021, he became a **Fellow of the Royal Society of London**, the oldest and most prestigious national scientific institution in the world



<https://www.youtube.com/watch?v=DJu-h3KB6Nk>

“Nothing I will say, or will ever say, has to do with the probability of guilt.”

Judge Christopher Plourd



- Defense attorney for 33 years; currently a judge in California
- **During the O.J. Simpson trial, he served as a Court TV commentator**
- Served on the NIJ's National Commission for Future of DNA Evidence (1998-2000) and currently involved with NIST' Organization of Scientific Area Committees for Forensic Science

Bruce Weir Video Recording of His ISFG 2022 Presentation

<https://www.youtube.com/watch?v=4UCgosl9qR8>



Smithsonian Institution
National Anthropological Archives
National Museum of Natural History

The National Anthropological Archives (NAA) is the Smithsonian's oldest archives and the nation's only repository with the exclusive mission to collect and preserve ethnographic, linguistic, archaeological, and physical anthropological records created by anthropologists. While

including materials drawn from around the world, the strength of its collections reflects the Smithsonian's long history of documenting

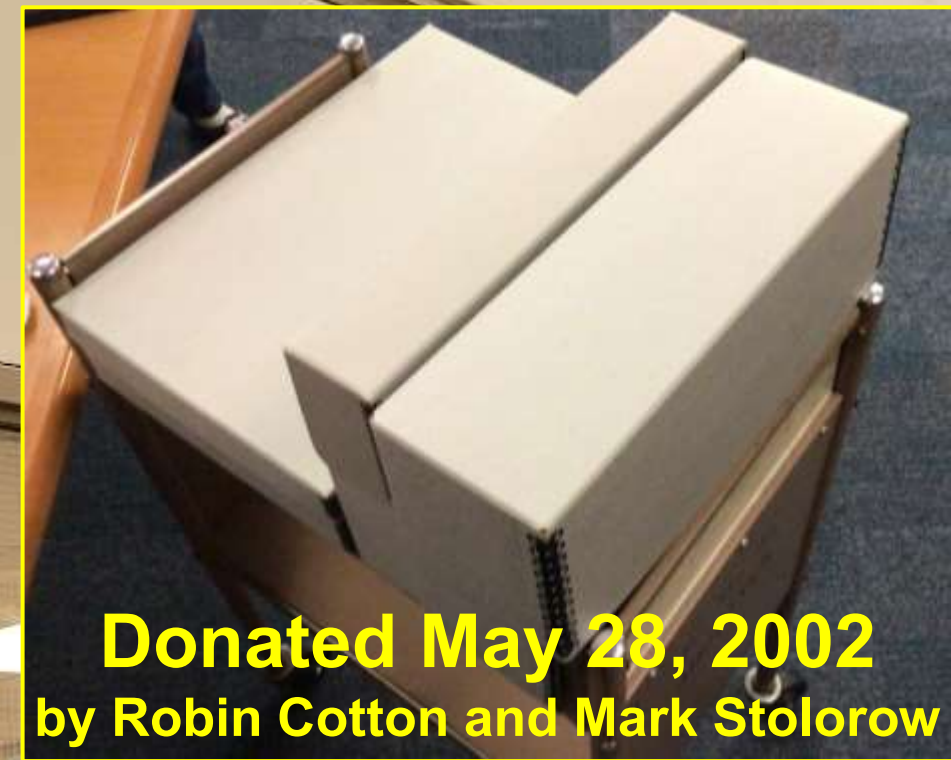
North American cultures and languages. The archives was founded in 1945 by the Smithsonian's Director of the Bureau of American Ethnology, to house his collection of ethnographic and linguistic materials from other early linguists.

Archiviana—Funds of the National Anthropological Archives reflecting 165 years of Smithsonian history.

North American Native communities.

Active collaborations with

Archival



Donated May 28, 2002
by Robin Cotton and Mark Stolorow

Cellmark O.J. Simpson Case Files
and Data are Publicly Available
(if you visit the Smithsonian site in Suitland, Maryland)

Cellmark Archived Files

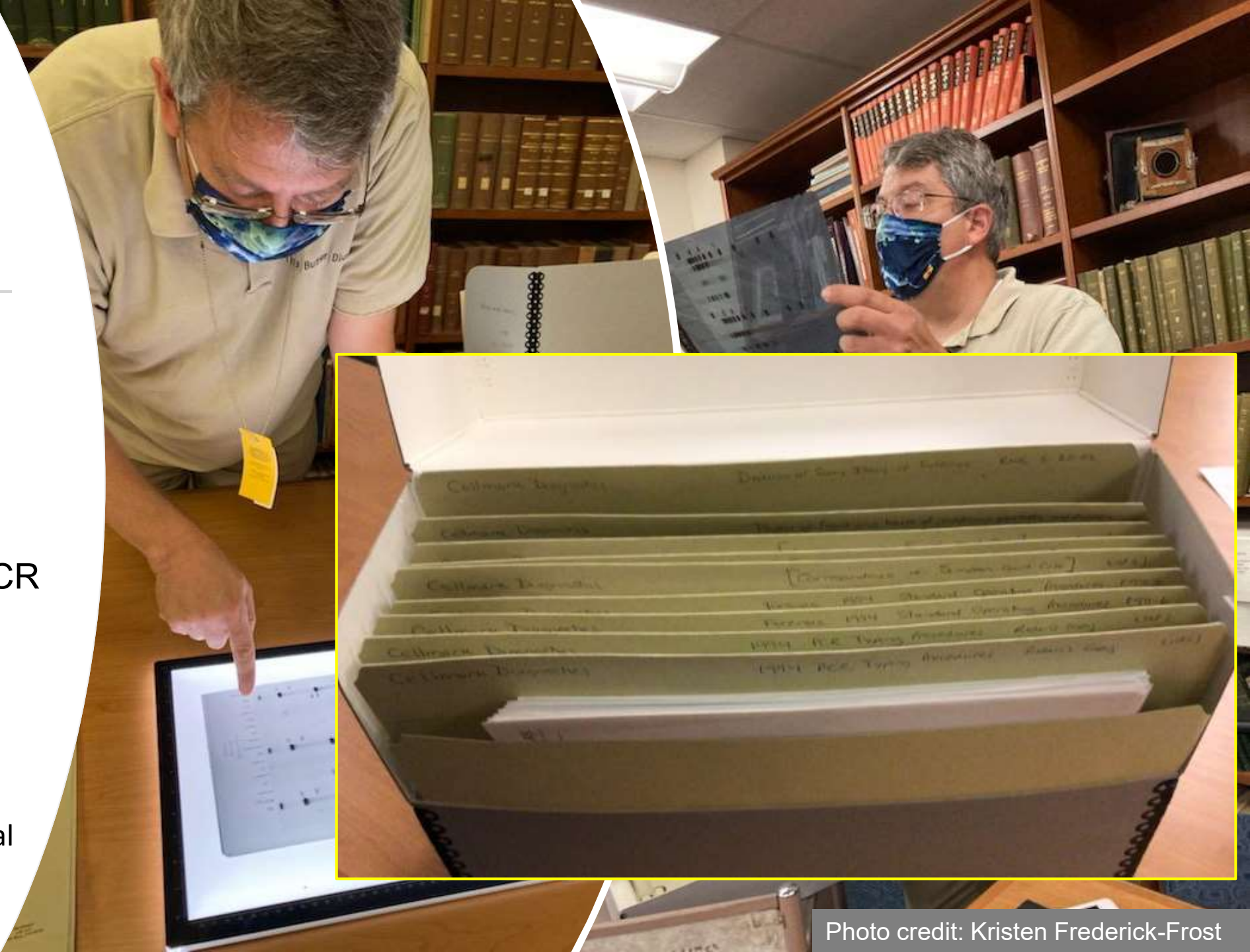
These files contain:

- Cellmark Diagnostics protocols at the time
- Case correspondence, notes, and data
- Autoradiographs and PCR test strips (DQ α , PM)

Collection ID

NAA.MS2002-29

Orchid Cellmark O.J. Simpson
DNA Analysis Records, National
Anthropological Archives,
Smithsonian Institution



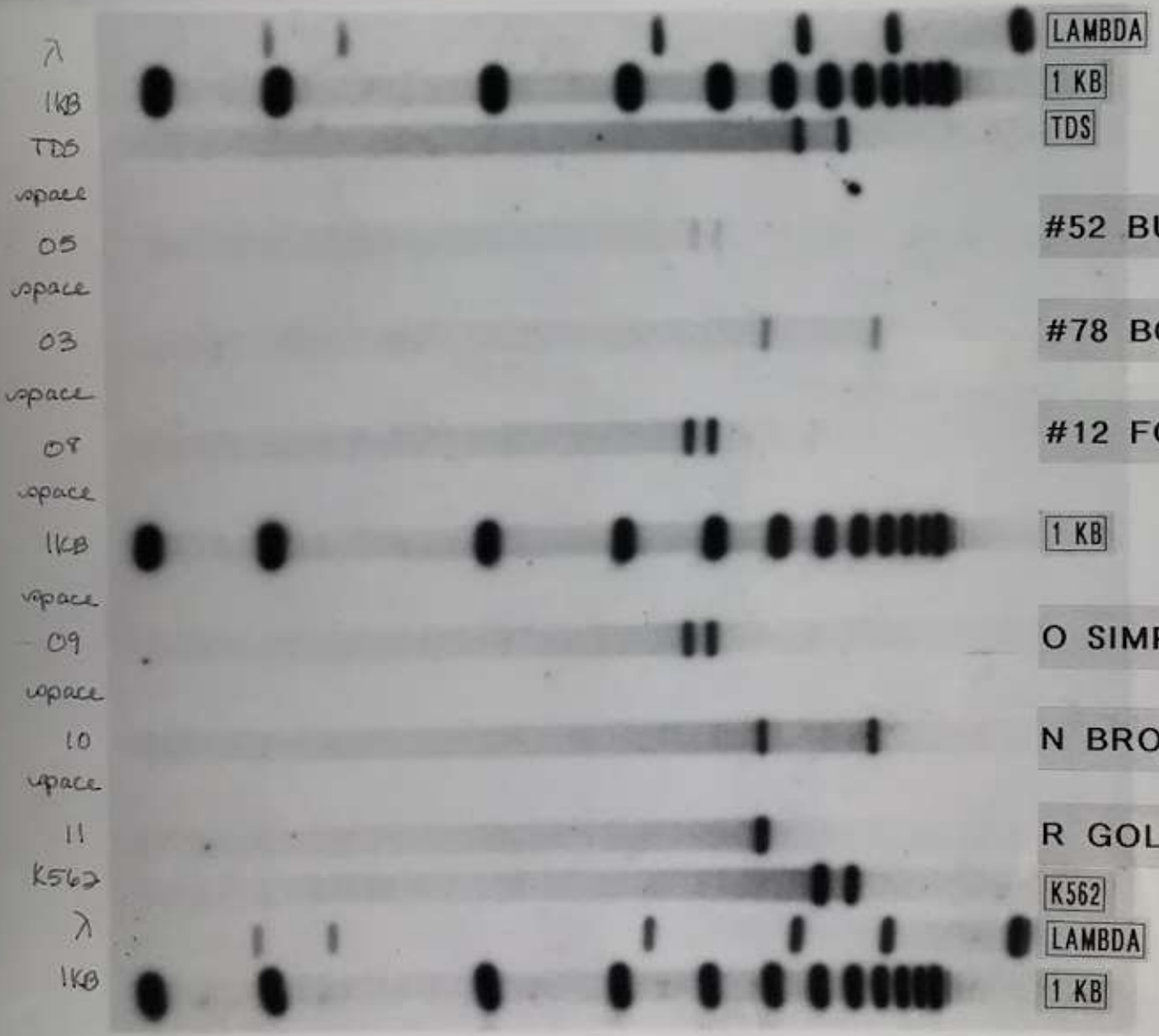
RFLP

Probe: MS31

F941224 SAC

1E2M A214P50807

11-1-94 TDS



LAMBDA
1 KB
TDS
#52 BUNDY
#78 BOOT
#12 FOYER
1 KB
O SIMPSON
N BROWN
R GOLDMAN
K562
LAMBDA
1 KB

F941224
F06039415A
MS31

F941224
211

10-21-94

Amplified 20 μ l 12M, RBM 10-12-94, 20 μ l of 13, 13RBA, 13RB,
⊕ and ⊖ controls.

Product gel

Lane/sample

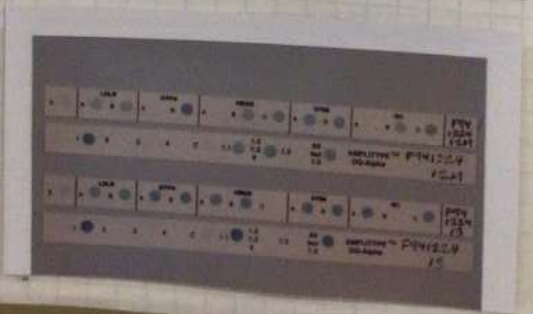
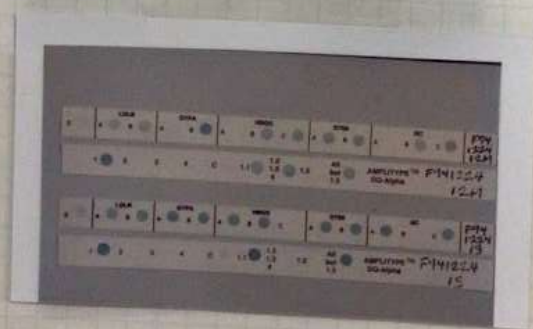
- 1: 123 bp ladder
- 2: 12M
- 3: 13
- 4: RBM 10-12-94
- 5: 13RBA
- 6: 13RB
- 7: ⊕ 10-21-94
- 8: ⊖ 10-21-94



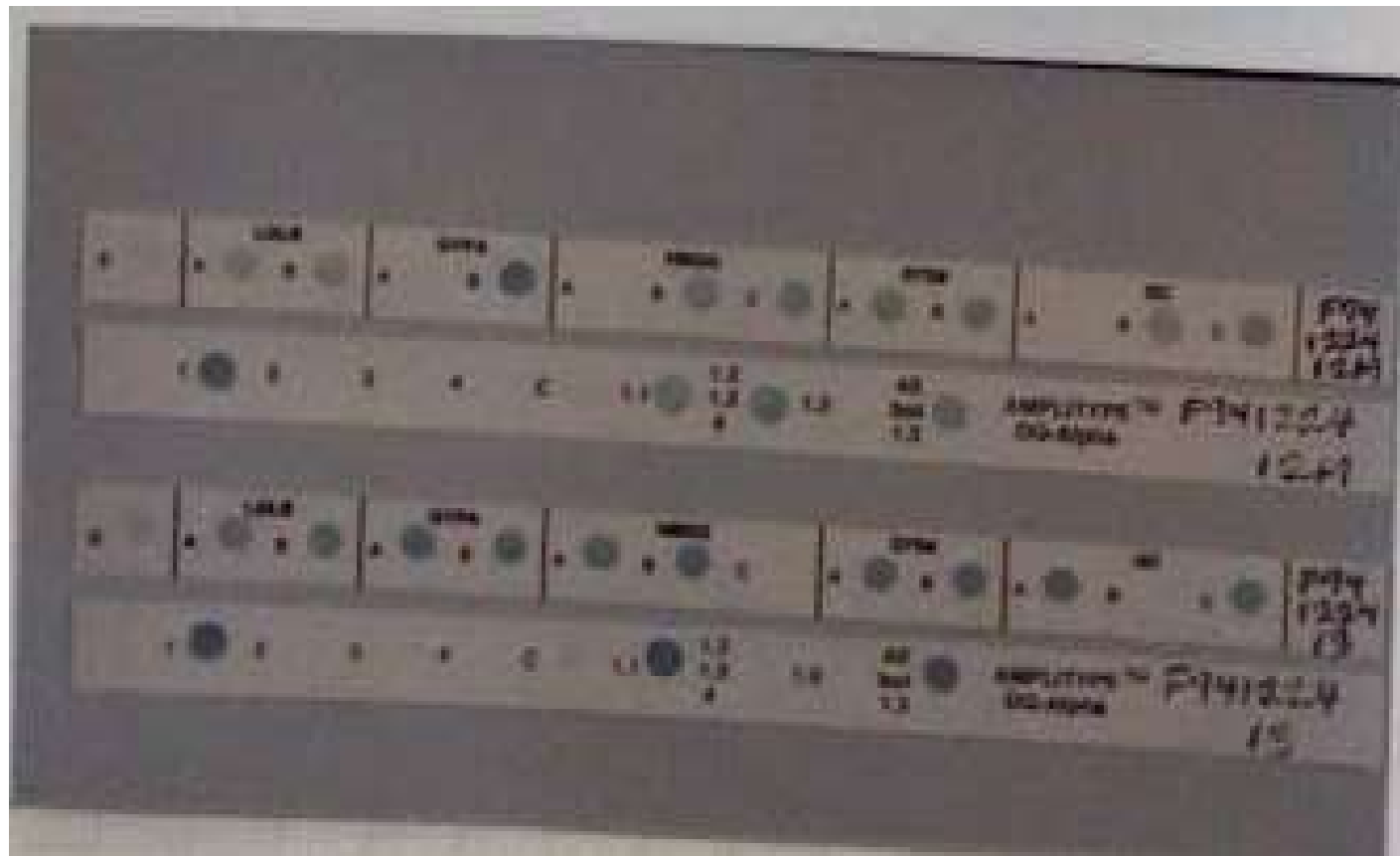
18

10-28-94

Hybe samples: 12M, 13, RBM 10-12, 13RBA, 13RB, ⊕ and ⊖ 10-21-94



PolyMarker and DQ-Alpha Results from Cellmark Casework



Some Media Quotes on the Case

- “The O.J. Simpson murder case could boil down to a titanic clash between silver-tongued lawyers and modern forensic science represented by a DNA fingerprinting technique that won the Noble Prize in 1993” (Peter Gorer & Trisha Gura, *Chicago Tribune*, June 28, 1994)
- “In the Simpson trial, DNA testing will be subjected to the most intense public scrutiny ever focused on a forensic procedure... Among the millions who will watch the lawyers fighting over the DNA tests will be many future jurors...” (Jerry E. Bishop, *The Wall Street Journal*, January 6, 1995)
- “Biochemist Robin Cotton, laboratory director for Cellmark Diagnostics of Germantown, Md., also testified that Nicole Brown Simpson’s blood matches bloodstains found on a pair of socks recovered from Simpson’s bedroom...” (Nell Henderson & Marc Fisher, *The Washington Post*, May 12, 1995)
- “Defense lawyers in the O.J. Simpson murder trial suggested today that the prosecution’s purported mountain of DNA evidence is a mirage composed of meaningless results from blood samples that were contaminated – inadvertently or intentionally – before testing” (Nell Henderson, *The Washington Post*, May 19, 1995)
- **“The O.J. Simpson case claimed a number of casualties, but use of DNA test results as evidence wasn’t among them...the jurors who acquitted Simpson hardly considered the prosecution’s DNA evidence, which took weeks to present and explain...What bothered them...was how the evidence was handled before it ever got to the DNA lab, and those concerns may shift the battleground of future DNA fights from the laboratories that process the evidence to the crime scenes where it is collected”** (Michael Fleeman, *The San Diego Union-Tribune*, October 11, 1995)