1st. Civ. No. G060988

IN THE COURT OF APPEAL FOR THE STATE OF CALIFORNIA
FOURTH APPELLATE DISTRICT, DIVISION 3

WILLIAM THOMPSON and SIMON COLE,

Plaintiffs-Appellants,

v.

TODD SPITZER and COUNTY OF ORANGE,

Defendants-Respondents.

Appeal from the Superior Court for the County of Orange
The Honorable William D. Claster
Case No 30-2021-01184633

AMICUS CURIAE BRIEF OF THE ELECTRONIC FRONTIER FOUNDATION IN SUPPORT OF PETITIONERS

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INTRODUCTION AND SUMMARY OF ARGUMENT

Our DNA contains our entire genetic makeup, which can be used to identify us in the narrow and proper sense of the word. But it also contains some of our most private information, ranging from our biological familial relationships to where our ancestors come from to our predisposition to suffering from certain genetically-determined diseases. Private companies have created a multi-billion dollar industry by purporting to link our DNA to our behavioral traits, our preferences and aversions, and even our physical characteristics.

Despite the intensely private information that DNA can reveal, since 2007, the Orange County District Attorney's Office ("OCDA") has created and implemented an expansive program ("OCDNA") that coerces thousands of Orange County residents annually to provide a DNA sample in exchange for dropping charges for low-level misdemeanor offenses. Through this program, the OCDA has amassed a database of over 182,000 DNA profiles—larger than that of 25 states. OCDA claims a right to indefinitely retain the DNA samples it collects and to share them with third parties who may use them in new and unknown ways in the future.

This Court should reverse the trial court's grant of demurrer for Defendants for three reasons.

First, DNA collection has serious implications for privacy and liberty, not just for the low-level arrestees who give up their DNA under OCDNA, but also their familial relations and wider communities. As the collection and analysis of DNA has become cheaper and more accessible over the past 30 years, government has pushed to collect more DNA. Courts have recognized the dangers that surveillance technologies with lower costs and higher efficiency pose to privacy rights and, in many cases, have sought to protect these rights. *See, e.g.*, *United States v. Jones*, 565 U.S. 400 (2012); *Riley v. California*, 573 U.S. 373 (2014). The same concerns apply to the collection of DNA. In many instances, the widespread collection of DNA has led to errors such as misidentification of suspects due to low-quality samples or crime scene samples with multiple contributors. It has also led to a disproportionate impact on certain communities of color. Research shows that across jurisdictions, DNA from Black communities is collected and stored in state-run databases at rates far higher than that of Black people in the population. And with law enforcement's increasing use of familial searching in DNA databases, it has been estimated that over 17 percent of the entire Black population can be identified through existing DNA profiles in the FBI's Combined DNA Index System ("CODIS") database.

Second, given these significant privacy and liberty concerns, OCDNA violates the California Constitution's privacy clause. With all of the information that DNA can reveal about familial, medical, and sexual history, it is clear that people have a protected privacy interest in their DNA. Misdemeanor arrestees, whose DNA is targeted under OCDNA, have a reasonable expectation of privacy in their DNA because of the entirety of information made available to the OCDA, and the potential for future private information being uncovered because OCDA retains both a profile and the full DNA sample. The OCDA argues that misdemeanor arrestees who provide their DNA under their program have consented to doing so, thus waiving their privacy interests. But this Court should closely scrutinize that argument. Those providing their DNA are doing so under extreme circumstances, where they may have to make decisions quickly and without the advice of counsel, and thus may not understand the full implications of consenting to provide their DNA. In high pressure situations such as traffic or *Terry* stops, or—as here—plea bargaining with a district attorney, research has shown that consent is often a legal fiction, with the vast majority of individuals consenting to law enforcement searches. Moreover, even if a misdemeanor arrestee understands that OCDA can retain their DNA sample indefinitely, they may not understand that the DNA can be tested not just for comparison to crime scene samples,

but also for uses such as familial searching—to implicate someone else entirely—or in new and unknown ways in the future.

Finally, given the strong privacy interests that Californians have in their DNA, decisions about DNA collection and storage should be made at the state, rather than local level. There is no statutory authority that gives the OCDA *carte blanche* to collect DNA in the manner that it does. Moreover, despite repeated attempts to collect more DNA for the statewide DNA database—which OCDA has supported—voters statewide and in Orange County repeatedly have rejected these efforts. The lack of safeguards for and low efficacy rates of local databases like OCDNA also counsel that these decisions be made at the state level.

The trial court erred in granting Defendants' application for demurrer without, among other things, seriously considering the privacy concerns Plaintiffs raised in their amended complaint. This Court should reverse the trial court's decision and allow the case to proceed.

ARGUMENT

I. DNA COLLECTION IMPLICATES SIGNIFICANT PRIVACY AND LIBERTY INTERESTS.

A. DNA Contains a Person's Most Private and Personal Information.

All DNA samples—including the samples the Orange County District Attorney's Office collects from misdemeanor arrestees—contain a

person's entire genetic makeup. This private and intensely personal information can reveal where our ancestors came from, to whom we are related, and whether we are likely to suffer from genetically determined diseases. Raising the specter of eugenics and other discredited theories, some researchers have even theorized DNA could predict intelligence, behavioral tendencies, criminality, and political ideology.[1] Private companies purport to be able to use our DNA for everything from predicting whether we are an introvert or extrovert, averse to cilantro, excel at running, or are afraid of public speaking.[2] One company, regularly used by law enforcement in cold case investigations, claims it can even predict a

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[1] Erika Check Hayden, *Ethics: Taboo Genetics*, Nature (Oct. 2, 2013), http://www.nature.com/news/ethics-taboo-genetics-1.13858; Ricki Lewis, *Can DNA predict who might be a mass murderer*?, Genetic Literacy Project (Jan. 31, 2020), https://geneticliteracyproject.org/2020/01/31/can-dna-predict-who-might-be-a-mass-murderer/; Marta Zaraska, *The Genes of Left and Right*, Scientific American (May 1, 2016), https://www.scientificamerican.com/article/the-genes-of-left-and-right/; Sophie von Stumm & Robert Plomin, *Using DNA to predict intelligence*, Intelligence, Volume 86 (May–June 2021) https://doi.org/10.1016/j.intell.2021.101530.

[2] *Ancestry Launches a New Take on Genetic Traits*, Ancestry.com (Nov. 9, 2018), https://www.ancestry.com/corporate/blog/ancestry-launches-a-new-take-on-genetic-traits; *AncestryDNA® Launches Introvert/Extrovert Traits Report*, Ancestry.com (Mar. 10, 2022); https://www.ancestry.com/corporate/blog/ancestrydna-launches-introvertextrovert-traits-report; *Let's talk about Fear of Public Speaking & Genetics*, 23andMe, https://www.23andme.com/topics/traits/fear-of-public-speaking/ (last visited Oct. 26, 2022).

person's physical appearance from their DNA, including "skin color, eye color, hair color, freckles, ancestry and face shape."[3] OCDA, like other agencies that collect DNA in the criminal context, retains its samples indefinitely.[4]

After OCDA collects a physical DNA sample from an arrestee, it contracts with an outside lab to extract a subset of a person's genetic data to create a profile for the OCDNA database. First Amended Complaint ("FAC") ¶ 23. But even a profile generated from a small portion of a person's genome can be extraordinarily revealing. If the profiles contained in the OCDNA database resemble those in federal and state-run offender and arrestee databases like the FBI's CODIS, they likely consist of one or two alleles at each of 13 to 20 loci considered part of CODIS's "Core

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[3] Caitlin Curtis & James Hereward, *How Accurately Can Scientists Reconstruct A Person's Face From DNA?*, Smithsonian Magazine (May 4, 2018),https://www.smithsonianmag.com/innovation/how-accurately-can-scientists-reconstruct-persons-face-from-dna-180968951.

[4] *See* Andrea Roth, *"Spit and Acquit": Prosecutors As Surveillance Entrepreneurs*, 107 Cal. L. Rev. 405, 456 (2019) (Waiver Form requiring Orange County misdemeanor arrestees to check a box indicating they understand and agree that they are providing their "OCDA DNA sample . . . to the District Attorney for permanent retention"). *See also* FAC ¶24 ("The County's contract with Bode explains that there is no requirement that Bode destroy County residents' DNA information upon the completion of testing.").

Loci."[5] These are taken from "non-coding"[6] parts of the human genome, sometimes colloquially called "junk DNA," and are said to serve the same identification purposes in the booking context as a fingerprint. *See, e.g.*, *Maryland v. King*, 569 U.S. 435, 442–43, 451 (2013). However, studies from the last decade have shown that these profiles provide significant information beyond mere identity of an individual. The core loci were chosen long before scientists sequenced the human genome, when much less was known about gene correlation. Now we know this data can reveal sensitive and private personal and medical information about individuals. Using just this limited data, DNA labs may infer relatedness among close family members.[7] While California currently limits familial DNA searches to the statewide offender DNA database and does not conduct such searches

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[5] *See Frequently Asked Questions on CODIS and NDIS: 19. What are the CODIS core loci?*, FBI, https://www.fbi.gov/services/laboratory/biometric-analysis/codis/codis-and-ndis-fact-sheet (noting CODIS profiles originally contained 13 DNA loci, but were increased to 20 in 2017).

[6] "Non-coding" means the DNA "does not provide instructions for making proteins." *What is noncoding DNA?*, National Library of Medicine - MedlinePlus, https://medlineplus.gov/genetics/understanding/basics/noncodingdna/.

[7] *See, e.g., Frequently Asked Questions on CODIS and NDIS: 34. Are familial searches performed at the state level?*, FBI, https://www.fbi.gov/resources/dna-fingerprint-act-of-2005-expungement-policy/codis-and-ndis-fact-sheet (noting Arkansas, California, Colorado, Florida, Michigan, Texas, Utah, Virginia, Wisconsin, and Wyoming currently perform familial searching).

on arrestee DNA,[8] OCDA has "made clear it might [conduct familial searches through OCDNA] in the future" and currently collects Y-STR data[9] needed for familial searching.[10] No California statute prohibits this practice. *See People v. Buza*, 180 Cal. Rptr. 3d 753, 767 (Ct. App. 2014), *rev'd*, 4 Cal. 5th 658 (2018). As discussed further below, familial searching exposes an arrestee's family members to risks to their liberty interests that they would not face if the arrestee's DNA were not in a database in the first place.[11]

Researchers have also found that short tandem repeat ("STR") profiles in CODIS can make it possible to infer where a person's ancestors came from, which may in turn be used to derive information about an

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[8] *Memorandum of Understanding: DOJ Familial Searching Protocol*, Cal. Dep't of the Att'y Gen., https://oag.ca.gov/sites/all/files/agweb/pdfs/bfs/fsc-mou-06072019.pdf (describing California's familial search requirements).

[9] Y-chromosomal short tandem repeat polymorphisms ("Y-STRs") are derived solely from the male sex-determining Y chromosome and can be used to identify the sex of an unknown DNA contributor and to identify patrilineal relationships. *See, e.g.*, Manfred Kayser, *Forensic use of Y-chromosome DNA: a general overview*, 136 Human Genetics 621 (May 2017), https://pubmed.ncbi.nlm.nih.gov/28315050/.

[10] Roth, *Spit and Acquit*, 107 Cal. L. Rev. at 425.

[11] Erin Murphy, *Relative Doubt: Familial Searches of DNA Databases*, 109 Mich. L. Rev. 291, 326 (2010) (noting "familial searches effectively add the profiles of relatives to the database, even though they are not eligible for inclusion according to the established legal criteria").

individual's physical appearance based on assumptions about race and ethnicity.[12] And, because the alleles in a CODIS profile are linked to specific regions within our DNA that influence disease predisposition and phenotypic traits, it is also possible to infer medical conditions from CODIS loci. In 2020, researchers surveyed literature associating traits with forensic STRs, finding 57 studies that documented a link between an STR-inclusive gene and a phenotypic trait, with schizophrenia being the most frequently described.[13] The researchers concluded, "the likelihood of identifying significant associations is increasing as the function of non-coding STRs in gene expression is steadily revealed."[14] Research published this fall by the National Academy of Sciences supports this conclusion, finding "six significant correlations" between the CODIS core loci and the

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[12] Matthew Graydon, et al., *Inferring ethnicity using 15 autosomal STR loci—Comparisons among populations of similar and distinctly different physical traits*, Forensic Science International: Genetics, Volume 3, Issue 4 251-254 (Sept. 2009), https://www.sciencedirect.com/science/article/abs/pii/S1872497309000489; Bridget Algee-Hewitt et al., *Individual Identifiability Predicts Population Identifiability in Forensic Microsatellite Markers*, Current Biology, Volume 26, Issue 7 935, 939 (Apr. 4, 2016) https://doi.org/10.1016/j.cub.2016.01.065 (these studies were conducted when the FBI's CODIS database relied on only 13 loci.).

[13] Nicole Wyner, et al., *Forensic Autosomal Short Tandem Repeats and Their Potential Association With Phenotype*, Frontiers in Genetics (Aug. 6, 2020), https://www.frontiersin.org/articles/10.3389/fgene.2020.00884/full.

[14] *Id*.

expression of neighboring genes, some of which have been connected to medical phenotypes, including psychiatric conditions such as depression and schizophrenia and a number of severe skin and platelet conditions.[15] These researchers noted: "[t]ogether, these findings raise concerns about the medical privacy of individuals whose CODIS profiles are seized, databased, and accessed, as well as the genetic relatives of those persons."[16] Combining CODIS information with publicly available genetic data, such as data readily available online in genetic genealogy databases or from public health sources,[17] could enable further inferences about a person's genetic makeup and could allow the police to identify anonymized genomes in those databases.[18]

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[15] Mayra M. Bañuelos, et al., *Associations between forensic loci and expression levels of neighboring genes may compromise medical privacy*, PNAS (Sept. 27, 2022), https://www.pnas.org/doi/10.1073/pnas.2121024119.

[16] *Id*.

[17] *See, e.g.*, GEDmatch, https://www.gedmatch.com; *see also GenBank Overview*, Nat'l Center for Biotech. Info., Nat'l Insts. of Health, http://www.ncbi.nlm.nih.gov/genbank/ (National Institutes of Health's GenBank is "an annotated collection of all publicly available DNA sequences.").

[18] Michael Edge et al., *Linkage Disequilibrium Matches Forensic Genetic Records to Disjoint Genomic Marker Sets*, Proceedings of the National Academy of Sciences (May 30, 2017), https://www.pnas.org/content/114/22/5671 (finding that CODIS STR profiles can be matched to SNP profiles); Lindzi Wessel, *Scientists*

Meanwhile, law enforcement increasingly extracts more genetic information from DNA samples than just a CODIS STR profile. Single-nucleotide polymorphism ("SNP") profiles, which law enforcement now routinely search as part of forensic genetic genealogical investigations, are made up of more than half a million SNPs and span the entirety of the human genome.[19] SNP profiles can reveal family members and distant ancestors as well as a person's propensity for various diseases like breast cancer or Alzheimer's and can predict traits like addiction and drug response. One company even claims it can use DNA to create a composite image of what an unknown person may look like now or at a certain age in the past.[20] Police have released these speculative facial images to the

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concerned over US plans to collect DNA data from immigrants, Nature (Oct. 7, 2019), https://www.nature.com/articles/d41586-019-02998-3.

[19] SNPs are single-letter variants at a specific location in a section or sequence of a person's genome. They can influence health, disease, and physical traits and can indicate a person's ancestry, among other things. *Single-nucleotide polymorphisms (SNPs)*, Nat'l Hum. Genome Rsch. Inst., Nat'l Insts. Of Health (Oct. 20, 2022), https://www.genome.gov/genetics-glossary/Single-Nucleotide-Polymorphisms.

[20] Aaron Keller, *Man Arrested After Son's DNA Provides Link to 50-Year-Old Cold Case Murder in Hawaii*, Law & Crime (Sept. 14, 2022), https://lawandcrime.com/crime/man-arrested-after-sons-dna-provides-link-to-50-year-old-cold-case-murder-in-hawaii/; *Police use DNA phenotyping in unsolved sexual assault*, Edmonton Police Service (Oct. 4, 2022), https://www.edmontonpolice.ca/News/MediaReleases/DNAPhenotypeOct4.

public, some of which have been generic images of Black men.[21] In addition to the obvious invasions of privacy they represent, these techniques could exacerbate racial profiling[22] and lead to public vigilantism. They also carry a high possibility of misuse, which would lead to even greater impacts on personal privacy. The same genetic information will likely produce even more revealing inferences as new analytical techniques are developed. There are no statutory restrictions on extracting SNP data from DNA samples as part of OCDNA.

Because of the breadth of information that can be gleaned through DNA data, such data can easily be misused for "intrusive purposes, such as blackmail and invidious research."[23] And once the data is collected, it

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[21] Chloe Xiang, *Police Are Using DNA to Generate 3D Images of Suspects They've Never Seen*, Vice (Oct. 11, 2022), https://www.vice.com/en/article/pkgma8/police-are-using-dna-to-generate-3d-images-of-suspects-theyve-never-seen.

[22] Andrew Pollack, *Building a Face, and a Case, on DNA*, N.Y. Times (Feb. 23, 2015), http://www.nytimes.com/2015/02/24/science/building-face-and-a-case-on-dna.html.

[23] Roth, *Spit and Acquit*, 107 Calif. L. Rev. at 413. *See also, e.g.*, Heather Murphy & Mihir Zaveri, *Pentagon Warns Military Personnel Against At-Home DNA Tests*, N.Y. Times (Dec. 24, 2019), https://www.nytimes.com/2019/12/24/us/military-dna-tests.html (quoting a Pentagon internal memo warning military personnel against using at-home DNA tests, noting that the "unintentional discovery of [genetic] markers . . . could affect a service member's career," and that the tests "could expose personal and genetic information, and potentially create unintended security consequences and increased risk to the joint force and mission.").

impacts not just the misdemeanor arrestee who provided their own DNA, but also that arrestee's unknown distant family members, simply because we share genetic data with people we do not even know. Research from 2018 showed that 60 percent of white Americans could be identified from a genetic genealogy database representing just 0.5 percent of the U.S. population.[24] And, this year, the CEO of a genetic genealogy company frequently used by law enforcement claimed its recent partnership with another similar company allowed law enforcement to "identify 90-95% of people to third cousin or closer or 60% of people to second cousin or closer."[25]

Unlike a credit card or a social security number, we cannot change our DNA. A person could provide DNA to OCDA and inadvertently reveal sensitive and personal information affecting themselves and countless

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[24] Jocelyn Kaiser, *We will find you: DNA search used to nab Golden State Killer can home in on about 60% of white Americans*, Science (Oct. 11, 2018), https://www.science.org/content/article/we-will-find-you-dna-search-used-nab-golden-state-killer-can-home-about-60-white ("by combining an anonymous DNA sample with some basic information such as someone's rough age, researchers could narrow that person's identity to fewer than 20 people by starting with a DNA database of 1.3 million individuals.").

[25] *The Democratization of Forensic Genetic Genealogy*, Forensic Magazine, at 9:00 (Aug. 22, 2022), https://soundcloud.com/forensic-magazine/the-democratization-of-forensic-genetic-genealogy.

known and unknown biological relatives for generations to come—without any recourse.

B. The Cost of DNA Collection and Analysis Continues to Drop Year over Year, Exacerbating Threats to Privacy.

Judges have rightly warned of the "slippery slope toward ever-expanding warrantless DNA testing." *United States v. Pool*, 621 F.3d 1213, 1235 (9th Cir. 2010) (Schroeder, J., dissenting), *vacated*, 659 F.3d 761 (9th Cir. 2011). *See also Maryland v. King*, 569 U.S. at 481 (Scalia, J., dissenting); *United States v. Mitchell*, 652 F.3d 387, 429 (3d Cir. 2011) (Rendell, J., dissenting); *People v. Buza*, 4 Cal. 5th 658, 701 (2018) (Liu, J., dissenting). As this case demonstrates, the costs of DNA collection and analysis have dropped so significantly that now even cities, counties, and police departments can afford to create and maintain their own stand-alone local DNA databases.[26]

As courts contend with emerging surveillance technologies, they have recognized that reduced costs and increased efficiency are often detrimental to privacy. Case in point is the U.S. Supreme Court's decision in *United States v. Jones*, which considered the constitutionality of tracking

[26] Joseph Goldstein, *Police Agencies Are Assembling Records of DNA*, N.Y. Times (June 12, 2013), http://www.nytimes.com/2013/06/13/us/police-agencies-are-assembling-records-of-dna.html.

a car via a GPS device for 28 days. 565 U.S. 400 (2012). Almost thirty years earlier, the Court had held there was no expectation of privacy in public, resting in part on the fact the technique at issue (primitive police "beepers" used to follow suspect cars) was so costly it was used only in limited circumstances. *See e.g.*, *United States v. Knotts*, 460 U.S. 276, 283–84 (1983) (dismissing concerns over constant surveillance by finding "reality hardly suggests abuse" and reserving right to consider "dragnet-type law enforcement practices" when they occur) (quotations omitted). But in *Jones*, justices expressed concern that newer technologies like GPS tracking devices make "available at a relatively low cost such a substantial quantum of intimate information about any person whom the Government, in its unfettered discretion, chooses to track," and could "alter the relationship between citizen and government in a way that is inimical to democratic society." 565 U.S. at 416 (Sotomayor, J., concurring) (quotations and citation omitted); *see also id.* at 429 (Alito, J., concurring) ("availability and use of . . . new devices will continue to shape the average person's expectations about . . . privacy"). The same concerns were present in *Riley v. California*, where the Court found, in considering whether a cell phone search was constitutional during a search incident to arrest, that a cell phone "not only contains in digital form many sensitive records previously found in the home; it also contains a broad array of private information

never found in a home in any form—unless the phone is." 573 U.S. 373, 396–97 (2014).

These concerns apply equally to DNA. When forensic DNA testing began nearly four decades ago, testing was expensive, so DNA was only collected in the most serious cases.[27] These costs also constrained the FBI and several states when they first began maintaining DNA indexes for law enforcement purposes.[28] Today, however, new technologies make it possible to sequence a person's whole genome for less than the cost of a new iPhone. According to the National Human Genome Research Institute, as of August 2021, the cost of sequencing an entire human genome was only $562.00—as compared to nearly $100 million just 20 years ago.[29] In fact, sequencing is so affordable now, that a forensic DNA company

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[27] *See* Stephen Mercer & Jessica Gabel, *Shadow Dwellers: The Underregulated World of State and Local DNA Databases*, 69 N.Y.U. Ann. Surv. Am. L. 639, 645–46 (2014).

[28] *See, e.g.*, *Frequently Asked Questions on CODIS and NDIS: 10. What is the National DNA Index System (NDIS)?*, FBI, https://www.fbi.gov/how-we-can-help-you/dna-fingerprint-act-of-2005-expungement-policy/codis-and-ndis-fact- (noting FBI's National DNA system was established in 1994).

[29] *DNA Sequencing Costs: Data*, Nat'l Hum. Genome Rsch. Inst., https://www.genome.gov/sites/default/files/media/files/2021-11/Sequencing_Cost_Data_Table_Aug2021.xls, *linked from* https://www.genome.gov/about-genomics/fact-sheets/DNA-Sequencing-Costs-Data.

recently pledged to offer whole genome sequencing to "key partners" like law enforcement in the very near future.[30]

The monetary and practical costs of processing DNA samples to obtain a profile have also decreased. Rapid DNA analyzers—portable machines about the size of a laser printer that can be used by non-scientists outside a lab,[31] can produce a DNA profile in 90 minutes or less for as little as $100 per sample.[32] They are increasingly being used by federal, state, and local law enforcement across the country, including in Orange County.[33] Rapid DNA has shown significant error rates, even when used in a lab on high-quality single-source samples, like those obtained from a cheek swab.[34] Orange County, however, is using Rapid DNA on crime

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[30] *Verogen and Gene by Gene Form Groundbreaking Partnership to Accelerate Adoption of Forensic Investigative Genetic Genealogy*, Verogen (Aug 15, 2022), https://verogen.com/verogen-and-gene-by-gene-form-groundbreaking-partnership-to-accelerate-adoption-of-forensic-investigative-genetic-genealogy/.

[31] *Rapid DNA*, FBI, https://le.fbi.gov/science-and-lab-resources/biometrics-and-fingerprints/codis/rapid-dna.

[32] *See, e.g.*, Rachel Solomon, *Kentucky police use new technology to nab suspects in hours instead of weeks as rapid DNA market takes off*, CNBC (July 28 2018), https://www.cnbc.com/2019/07/26/rapid-dna-testing-market-takes-off-as-kentucky-police-test-new-technology.html.

[33] *See Rapid DNA Leads to Rapid Conviction*, OCDA (May 2, 2017), https://orangecountyda.org/press/rapid-dna-leads-to-rapid-conviction.

[34] *See, e.g.*, *Rapid DNA: A summary of available Rapid DNA systems*, Swedish National Forensic Centre, 7 (Feb. 2022),

scene samples as well, despite cautions from the FBI and a consortium of expert forensic science working groups in the United States and Europe that Rapid DNA should not be used outside the booking context.[35] Given the convenience, speed, and low cost of Rapid DNA, its availability could encourage more agencies to create their own local DNA databases, just as OCDA has done.

C. Excessive DNA Collection, When Combined with Documented Issues in Forensic DNA Analysis, Poses Very Real Threats to Liberty.

Excessive DNA collection and the unnecessary retention and storage of DNA in databases subject to repeated police searches pose very real threats to the liberty interests of people included in OCDNA. Once a person's DNA is in a police database, the possibility that they or their

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https://polisen.se/SysSiteAssets/dokument/forensik/nfc-report-2022_02-rapid-dna.pdf (finding 36% of tests had problems or errors, including retrieval of an incorrect DNA profile).

[35] *Rapid DNA leads to Rapid Conviction*, OCDA Press Release (May 2, 2017), https://orangecountyda.org/press/rapid-dna-leads-to-rapid-conviction/; *Rapid DNA*, FBI, https://le.fbi.gov/science-and-lab-resources/biometrics-and-fingerprints/codis/rapid-dna (noting Rapid DNA has not been approved to process crime scene samples for CODIS, even when used by an accredited lab); Douglas R. Hares, et al., *Rapid DNA for crime scene use: Enhancements and data needed to consider use on forensic evidence for State and National DNA Databasing – An agreed position statement by ENFSI, SWGDAM and the Rapid DNA Crime Scene Technology Advancement Task Group*, Forensic Sci. Int. Genet. (July 8, 2020), https://www.fsigenetics.com/article/S1872-4973(20)30122-8/fulltext.

family members could become a suspect for a crime they did not commit increases. This is due to several factors, including sloppy policing, systemic lab problems, the vastly increased sensitivity of DNA collection and sequencing technology, the phenomenon of secondary transfer, and the fact that we cannot avoid leaving behind our DNA wherever we go.

1. *Modern DNA Collection and Identification Techniques Can Result in Errors.*

The ability of forensic investigators and others to collect DNA from everyday items has improved dramatically in recent years. Where once the state could only collect a useable forensic DNA profile from large, visible stains of bodily fluids like semen or blood, now investigators are able to detect, collect, and analyze trace amounts of DNA from surfaces a person has only briefly touched and can generate a profile from as few as three human cells.[36] Through secondary transfer, DNA may even be found on items with which a person never came into contact.[37] This means that crime

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[36] Christopher Zoukis, *Secondary DNA Transfer: The Rarely Discussed Phenomenon That Can Place the Innocent (and the Dead) at a Crime Scene They've Never Been To*, Criminal Legal News (Aug. 15, 2018),https://www.criminallegalnews.org/news/2018/aug/15/secondary-dna-transfer-rarely-discussed-phenomenon-can-place-innocent-and-dead-crime-scene-theyve-never-been/.

[37] Katie Worth, *Framed for Murder By His Own DNA*, PBS Frontline (Apr. 19, 2018), https://www.pbs.org/wgbh/frontline/article/framed-for-murder-by-his-own-dna/.

scene samples can contain DNA from someone who was at the crime scene long before the crime was ever committed or who merely touched something transported to the crime scene and who was never at the scene at all. Researchers found that, after two people shook hands for two minutes and then each handled a separate knife, "[i]n 85% of cases, the DNA of the other person was transferred to the knife and profiled. In one-fifth of the samples, the DNA analysis identified this other person as the main or only contributor of DNA to the 'weapon.'"[38] The study's lead researcher noted in 2021 that "[y]ou could have a secondary transfer occur in as little as 10 seconds."[39] Transfers can occur even via the cleaning process. Another study discovered that sperm could be transferred from a man's underwear to the underwear of another person when their clothes were washed together.[40] Secondary transfer takes on particular significance, given that

[38] Cynthia M. Cale, *Forensic DNA evidence is not infallible*, Nature (Oct. 28, 2015), https://www.nature.com/articles/526611a.

[39] Emilie Le Beau Lucchesi, *How Indirect DNA Transfer Is Challenging Forensics and Overturning Wrongful Convictions*, Discover Magazine (Sept. 14, 2021), https://www.discovermagazine.com/the-sciences/how-indirect-dna-transfer-is-challenging-forensics-and-overturning-wrongful.

[40] Erin Murphy, *Inside the Cell: The Dark Side of Forensic DNA* 40–41 (2015) (citing research).

humans shed roughly 500 million skin cells per day[41] and lose as many as 100 strands of hair[42]—meaning people cannot avoid leaving genetic data behind wherever they go. However, this DNA shedding occurs at different rates for different people, and the same person may shed DNA at different rates at different times.[43] This means that an individual who committed a crime may not leave behind DNA, while an innocent person could leave behind large quantities of DNA. If that innocent individual's DNA is already in a criminal database, they could quickly become a suspect.

The unreliability of some crime scene DNA can compound these issues. In the real world, forensic DNA samples may be significantly degraded and frequently contain genetic material from more than one person,[44] which can make it difficult for even the most highly-trained and experienced lab analyst to accurately identify a DNA contributor.[45] If an

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[41] Leonard M. Milstone, *Epidermal Desquamation*, Journal of Dermatological Science 36, no. 3 131–40 (December 1, 2004)).

[42] *Do you have hair loss or hair shedding?*, American Academy of Dermatology Association https://www.aad.org/public/diseases/hair-loss/insider/shedding.

[43] Murphy, *Inside the Cell*, supra n. 40, at 35, 37 (citing research).

[44] *See* Mercer & Gabel, *Shadow Dwellers*, 69 N.Y.U. Ann. Surv. Am. L. at 646 ("the relevance and reliability of low-level DNA profiles from surfaces likely to contain DNA from more than one person can be very uncertain.").

[45] Itiel E Dror & Greg Hampikian, *Subjectivity and bias in forensic DNA mixture interpretation*, 51 Sci. & Just. 204–208 (Dec. 2011).

analyst is uncertain about the number of contributors to a DNA sample or how much that sample is degraded, their interpretation of the data "becomes prone to subjective assessments, bias, and error."[46] Low-quality crime scene samples that do not have enough information to reliably discriminate among people who may be potential contributors can also lead investigators to suspect an individual based on a partial match—where a forensic profile matches an arrestee or offender profile on some but not all of the alleles in a profile. Although in the past researchers believed it was "exceedingly rare" for unrelated individuals to share the same markers at multiple loci in the original 13-loci CODIS profile, newer research demonstrates this is more common than previously thought.[47] Analysts in Arizona's state crime lab found, after studying the state's database of only 65,493 people, that there were 122 sets of people who shared the same

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https://doi.org/10.1016/j.scijus.2011.08.004 (noting that, when presented with the same data from a DNA mixture, 17 DNA experts produced inconsistent results on whether an individual was a contributor to the mixture and thus possibly the perpetrator).

[46] Mercer & Gabel, *Shadow Dwellers*, 69 N.Y.U. Ann. Surv. Am. L. at 676 (discussing research cited in note 45).

[47] Erin Murphy, *The Dark Side of DNA Databases*, The Atlantic (Oct. 8, 2015), http://www.theatlantic.com/science/archive/2015/10/the-dark-side-of-dna-databases/408709/.

genetic markers at nine of the 13 loci, and "some even shared markers at 10, 11 or 12 places."[48]

The problems inherent in degraded or multi-contributor forensic samples can be compounded by improper DNA analysis and lab mistakes. For example, in 2010, an FBI audit of San Francisco's crime lab "found that out of 100 samples of evidence the lab had submitted to the state and federal offender tracking database, seven were not up to standard and should be removed."[49] In 2014, a technician from the same lab made assumptions about missing data from a low quality crime scene sample and passed the resulting genetic profiles off as complete, perhaps incorrectly

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[48] *Id*. *See also* The *National DNA Database Annual Report 2005-2006*, Nat'l DNA Database Bd. (U.K.), 35 (2006), http://www.genewatch.org/uploads/f03c6d66a9b354535738483c1c3d49e4/DNA_report2005_06.pdf (noting that after attempting to match forensic profiles against the United Kingdom's National DNA Database, multiple potential suspects were identified for 49,247 out of 182,612 crime scene profiles, "largely due to the significant proportion of crime scene sample profiles that are partial").

[49] Jaxon Van Derbeken, *Technician, Boss in SFPD Lab Scandal Flunked DNA Skills Exam*, SFGATE.com (March 31, 2015), http://www.sfgate.com/bayarea/article/Technician-boss-in-S-F-police-lab-scandal-6169230.php. *See also* Jaxon Van Derbeken, *San Francisco police crime lab accused of cover-up*, SFGATE.com (Dec. 4, 2010), http://www.sfgate.com/news/article/San-Francisco-police-crime-lab-accused-of-cover-up-2454525.php (noting in 2008, the crime lab switched DNA test vials and then altered records to cover up the mistake).

implicating a defendant whose DNA was already in the state database.[50] After the mistake came to light, authorities had to review 1,400 criminal cases that were prosecuted in part based on DNA work done by the same technician.[51] Similar problems have occurred in labs across the country.[52]

2. *Familial Searches Can Also Implicate the Wrong Person.*

Familial searches—where investigators try to find people in a database who are related to an unidentified forensic sample—raise additional liberty concerns. Familial searching using only STR profiles can lead to false positives and can "return a number of persons that are not in fact related to the source."[53] Researchers analyzing California's familial search protocol noted that, because the protocol uses only limited data, there is "a substantial probability" of error that a more distant relative, such

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[50] Van Derbeken, *Technician, Boss in SFPD Lab Scandal Flunked DNA Skills Exam*, *supra* n. 49.

[51] *Id*.

[52] *See, e.g.*, Joseph Goldstein, *New York Examines Over 800 Rape Cases for Possible Mishandling of Evidence*, N.Y. Times (Jan. 10, 2013), http://www.nytimes.com/2013/01/11/nyregion/new-york-reviewing-over-800-rape-cases-for-possible-mishandling-of-dna-evidence.html; Rebecca Cohen, *Forget CSI: Real-Life Crime Labs Are a Total Mess*, Mother Jones (Apr. 20, 2015), http://www.motherjones.com/politics/2015/04/why-do-crime-labs-keep-screwing-dna-tests. *See also* Erin Murphy, *The New Forensics: Criminal Justice, False Certainty, and the Second Generation of Scientific Evidence*, 95 Cal. L. Rev. 721, 754 (2007) (noting several scandals that "have revealed systemic problems in a number of 'flagship' DNA laboratories and horrific tales of false-positive DNA matches").

[53] Murphy, *supra* n. 11, at 298.

as a first cousin, will be falsely identified as a first-degree relative, such as a full sibling.[54] And familial searching using SNP profiles, as police have been doing with increasing frequency through searches of consumer genetic genealogy databases, can not only implicate the wrong person but also expose the private information of innocent people.[55]

In addition, familial searching can turn family members into "genetic informant[s]" on each other[56] and compounds the criminal justice system's disproportionate impact on people of color. This is because there are "dramatic racial disparities in the national DNA database."[57] In fact, "in

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[54] Rori Rohlfs, et al., *The Influence of Relatives on the Efficiency and Error Rate of Familial Searching*, PLOS One (Aug. 14, 2013), http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0070495. *See also* Murphy, *supra* n. 11, at 311 ("[I]n cases in which the crime-scene sample is degraded or contains a mixture of profiles . . . the confirmatory testing may erroneously inculpate the individual.").

[55] Jennifer Lynch, *Distant Relatives Aren't The Only Ones Looking for Your DNA on Genealogy Sites—Law Enforcement Is Looking, Too*, EFF Deeplinks (May 31, 2018), https://www.eff.org/deeplinks/2018/05/distant-relatives-arent-only-ones-looking-your-dna-genealogy-sites-law-enforcement; Tom Barnes, *Golden State Killer: Police using genealogy website wrongly identified innocent man in nursing home as suspect*, Independent (Apr. 28, 2018), https://www.independent.co.uk/news/world/americas/golden-state-killer-2018-case-solved-identity-genetic-genealogy-websites-dna-joseph-james-deangelo-a8326946.html.

[56] Murphy, *supra* n. 11, at 320.

[57] Erin Murphy & Jun H. Tong, *The Racial Composition of Forensic DNA Databases*, 108 Cal. L. Rev. 1847, 1851 (2020). *See also* Jason Silverstein, *The Dark Side of DNA Evidence*, The Nation (Mar. 27, 2013),

every jurisdiction, DNA profiles from Black persons are collected and stored in the state database at two to three times the rate of Black persons in the population. In contrast, only a tiny fraction of DNA profiles are collected and stored from persons of Asian descent."[58] For example, in California, researchers found that DNA was collected from Black individuals at a rate of three to almost four times that of white individuals.[59] This "dramatic overrepresentation" of Black individuals in DNA databases "opens greater shares of that community to suspicion using familial searches."[60] And given that DNA data is retained indefinitely, "the net of coverage from a familial search will continue to expand as later generations come of age."[61] Even accounting for differences in how familial searching techniques impact DNA profiles from various races and ethnicities, researchers have found "the reliance on racially disproportionate databases

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https://www.thenation.com/article/archive/dark-side-dna-evidence/ (citing Jeremy Gruber, former executive director of the Council for Responsible Genetics, for the premise that "[b]y 2011, African-Americans made up 40 percent of the Combined DNA Index System (CODIS)," even though, according to the United States Census Bureau, as of the 2010 census, African Americans constituted only 12.6% of the total United States population).

[58] Murphy & Tong, *supra* n. 57, at 1851.

[59] *Id*. at 1889.

[60] *Id*. at 1899.

[61] *Id*.

will on average impact the targeting of suspicion, drawing disproportionate attention toward Hispanics and African Americans and against Asian Americans, and weakly affecting Caucasians."[62] Older research indicated that if familial searching were conducted on a mass scale, as much as 17 percent of the total African American population in the United States—not limited to those previously arrested or convicted—could be identified through DNA profiles already in CODIS compared to only 4 percent of the white population.[63] This disproportionate representation leads to a "roughly two orders of magnitude higher" rate of false identification among the Black population.[64]

3. *Errors in DNA Collection and Analysis Have Real-World Impacts on Peoples' Lives.*

Ultimately each of these issues discussed above affects anyone whose DNA is already in an offender or arrestee database. These people face not only the very real indignity of living under a cloud of suspicion

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[62] Murphy, *supra* n. 11, at 323.

[63] *See* Henry T. Greely, et al., *Family Ties: The Use of DNA Offender Databases to Catch Offenders' Kin*, 34 J.L. Med. & Ethics 248, 259 (2006). This percentage could be much higher today as CODIS has increased from about 4 million offender profiles in 2006 to nearly 15 million offender profiles today. *See also CODIS-NDIS Statistics*, FBI, https://le.fbi.gov/science-and-lab-resources/biometrics-and-fingerprints/codis/codis-ndis-statistics.

[64] Rohlfs, *supra* n. 54.

until and possibly after their names are cleared,[65] but also the possible deprivation of their physical liberty by being forced to spend time in jail solely due to a false DNA match.

Examples of DNA misidentifications abound. In San Jose, California, Lukis Anderson spent five months in jail after a database search linked his DNA to DNA found on the fingernails of a murder victim—although Anderson had been at the county hospital when the murder occurred.[66] Prosecutors believe paramedics likely transferred his DNA to the murder victim when they responded to the crime scene hours after dropping Anderson off at the hospital.[67] Similarly, in Sacramento, Shawn Ponce was falsely arrested based on his DNA and jailed for five days for two crimes he could not have committed.[68] In England, David Butler spent eight months in jail after a database search falsely matched his DNA to that

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[65] *See* Murphy, *supra* n. 11, at 314 ("The worst indignity of an investigation can be living under a cloud of suspicion; even mere suspicion, quickly dispelled, has the potential to disrupt a career, destroy a marriage, or ruin a life.").

[66] Henry Lee, *How Innocent Man's DNA Was Found at Killing Scene*, SFGATE.com (June 26, 2013), http://www.sfgate.com/crime/article/How-innocent-man-s-DNA-was-found-at-killing-scene-4624971.php.

[67] *Id*.

[68] See *U.S. v. Ponce*, Case No. 2:07-mj-00215-DAD (E.D. Cal. 2007); *USA v. Resendez*, Case No. 2:07-mj-00199-DUTY (C.D. Cal. 2007) SW 07-2000-KJM, (C.D. Cal. 2007) Mag.No. 07-0199.

found on a murder victim—despite evidence establishing his innocence.[69] Another British citizen was falsely accused of murdering a woman in Italy based solely on DNA.[70] And a man in Connecticut was implicated for murder after his cells were found in significant quantities on the underwear of a woman found in a mechanical chase (an open vertical gap) behind a wall in a Yale lab.[71] He did not become a suspect, but only because he died before the murder occurred. Investigators believe his DNA was transferred to the woman's underwear from the chase, which he had helped build years earlier.[72] None of these individuals would have become suspects if their DNA had not been in a criminal DNA database.

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[69] *See* Hannah Barnes, *DNA Test Jailed Innocent Man for Murder*, BBC News (Aug. 31, 2012), http://www.bbc.co.uk/news/science-environment-19412819.

[70] Linda Geddes, *DNA Super-Network Increases Risk of Mix-Ups*, New Scientist (Aug. 31, 2011), http://www.newscientist.com/article/mg21128285.500-euro-dna-treaty-risks-false-positives.html.

[71] Erin Murphy, *Inside the Cell*, *supra* n. 40, at 33-34.

[72] *Id*.

II. OCDA'S DNA COLLECTION SCHEME VIOLATES THE CALIFORNIA CONSTITUTION'S RIGHT TO PRIVACY.

A. Article 1, Section 1 Precludes the Warrantless Collection and Search of Misdemeanor Arrestee DNA in California.

In light of the significant privacy and liberty interests implicated by the collection, retention, and dissemination of DNA described above, this Court should find that Plaintiffs have stated a claim for invasion of the right to privacy protected in Article I, Section 1 of the California Constitution.

Under Article I, Section 1, every Californian has an "inalienable right" to privacy. Cal. Const. art. I § 1.[73] As the California Supreme Court has recognized, "[i]nformational privacy is the core value furthered by" the explicit inclusion of a right to privacy. *Hill v. National Collegiate Athletic Assn.*, 7 Cal. 4th 1, 35 (1994); *see also Los Angeles Gay & Lesbian Ctr. v. Super. Ct.*, 194 Cal. App. 4th 288, 307 (2011) ("[T]he privacy right protects

[73] The California Constitution provides, "All people are by nature free and independent and have inalienable rights. Among these are enjoying and defending life and liberty, acquiring, possessing, and protecting property, and pursuing and obtaining safety, happiness, *and privacy*." Cal Const., art. I, § 1 (emphasis added). The phrase "and privacy" was added through an initiative adopted by California voters on November 7, 1972, commonly referred to as the "Privacy Initiative" or "Privacy Amendment." *Hill v. National Collegiate Athletic Assn.*, 7 Cal. 4th 1, 15 (1994); *see also* Cal. Civ. Code § 1798.1 ("The Legislature declares that the right to privacy is a personal and fundamental right protected by Section 1 of Article I of the Constitution of California and by the United States Constitution and that all individuals have a right of privacy in information pertaining to them.").

the Individual's reasonable expectation of privacy against a serious invasion." (quotation omitted)). The right to informational privacy "prevents government and business interests from collecting and stockpiling unnecessary information about us and from misusing information gathered for one purpose in order to serve other purposes." *Hill*, 7 Cal. 4th at 17 (citation omitted).

In *Hill*, the court explained that plaintiffs can make a prima facie case under Article I, Section 1 when they establish three elements: "(1) a legally protected privacy interest; (2) a reasonable expectation of privacy in the circumstances; and (3) conduct by defendant constituting a serious invasion of privacy." *Id.* at 39–40. A particular class of information is private, and thus protected, "when well-established social norms recognize the need to maximize individual control over its dissemination and use to prevent unjustified embarrassment or indignity." *Id.* at 35. The allegations in this case regarding the OCDNA program more than meet each of these elements.

1. *Individuals Have a Protected Privacy Interest in their DNA*.

Every individual has a protected privacy interest in their DNA. Courts interpreting the California and federal constitutions have routinely found that the protection of DNA is at the core of the right to privacy. *Buza*, 4 Cal. 5th at 689–90 (DNA implicates interests protected by Article I,

Section 1); *United States v. Davis*, 690 F.3d 226, 244, 246 (4th Cir. 2012) (collection and analysis implicates Fourth Amendment "privacy concerns inherent in the use of physiological and medical information"). In particular, and as discussed in detail above, the sequencing or "chemical analysis" of DNA "can reveal a host of private medical facts about [an individual]." *Skinner v. Ry. Lab. Execs.' Ass'n*, 489 U.S. 602, 617 (1989) (recognizing that "chemical analysis" of blood and urine samples constitutes a "further invasion" of privacy beyond the initial collection of biological material). Closely related is the protection for medical records, including health conditions, which can be revealed by analysis of DNA samples. *John B. v. Super. Ct.*, 38 Cal. 4th 1177, 1198 (2006) (citing *Hill*, 7 Cal. 4th at 41); *Bd. of Med. Quality Assurance v. Gherardini*, 93 Cal. App. 3d 669, 679 (1979) (holding that protection of the privacy of medical records "falls squarely within the protected ambit, the expressed objectives of article I, section 1"); *Ferguson v. City of Charleston*, 532 U.S. 67, 78 n.14 (2001) (citing *Whalen v. Roe,* 429 U.S. 589, 599–600 (1977)); *In re Search Warrant (Sealed)*, 810 F.2d 67, 71 (3d Cir. 1987) ("medical records are clearly within" the federal "constitutionally protected sphere" of "individual liberty"). As with a person's comprehensive location information, the "familial . . . and sexual associations" that can be revealed

through DNA also offer the government "an intimate window into a person's life." *Carpenter v. United States*, 138 S. Ct. 2206, 2217 (2018).

2. *Misdemeanor Arrestees Maintain a Reasonable Expectation of Privacy in their DNA.*

Individuals maintain a reasonable expectation of privacy against the collection, analysis, and retention of their DNA as part of the OCDNA program. *See e.g.*, *Mathews v. Becerra,* 8 Cal. 5th 756, 770 (2019) (reasonable expectation of privacy analysis under *Hill* concerns "whether an expectation of privacy is reasonable in the particular setting or context at issue"). Plaintiffs point out that the OCDNA program is distinguishable from cases like *Buza* because it involves collection of samples from classes of individuals suspected of misdemeanors, rather than the defendant in *Buza*, who was tried and convicted of a felony. *See* Opening Br. at 32–33.

The OCDNA program impinges on individuals' expectation of privacy and differs from California's statewide collection program reviewed by the court in *Buza* for several other reasons.

First, the "setting and context" of OCDNA differs from the state scheme at issue in *Buza* because it involves the collection of DNA from misdemeanor arrestees in the courthouse, at the whims of individual prosecutors, rather than a statewide program approved by the voters, which collects DNA upon booking and applies to *all* felony arrestees. This difference matters for constitutional purposes and triggers the "explicit

protection" of Section 1, which is often broader than the protections against unreasonable searches and seizures in Article I, Section 13 and the Fourth Amendment, and which were primarily at issue in *Buza*.[74] *Buza*, 4 Cal. 5th at 690. *See, e.g.*, *Hansen v. California Dep't of Corr.,* 920 F. Supp. 1480 (N.D. Cal. 1996) (observation of urination during drug testing violated California right to privacy but not Fourth Amendment); *People v. Arno*, 90 Cal. App. 3d 505, 511 (1979) (Fourth Amendment protections are "amplified by" Article I, Section 1); *White v. Davis*, 13 Cal. 3d 757, 773 (1975) (covert surveillance of university class discussions fell "within the aegis" of Article I, Section 1); *In re Carmen M.*, 141 Cal. App. 4th 478, 491 n.11 (2006) (California right to privacy is "broader and more protective of privacy than the federal constitutional right of privacy as interpreted by the federal courts").

Moreover, recent U.S. Supreme Court case law has made clear that searches aided by new technology implicate the *entirety* of the private information revealed to police through a search—not just the pieces of information the government ultimately considers useful. For example, in *Carpenter*, the Court looked to the full scope of the location data the

[74] To the extent that the *Buza* court found that the State DNA Act survived a challenge under Section 1, it rested this conclusion on safeguards that are absent from the OCDNA program. 4 Cal. 5th at 690; Opening Br. at 34. *See also infra* Section III.B.2.

government collected on the defendant (127 days) rather than the small portion of that data (16 location points from a few scattered days) that the government relied on to support its theory of the case at trial. In explaining why Mr. Carpenter had a reasonable expectation of privacy in his location information, the Court focused on the myriad "privacies of life" that could be revealed by the entirety of those 127 days of data, not just the isolated details of interest to investigators. *Carpenter*, 138 S. Ct. at 2212, 2217 (quotation and citation omitted). And, in *Riley*, the Court recognized that it is the full breadth and quality of information that exists on a cell phone seized by the government, and therefore available to be examined, that has constitutional significance. 573 U.S. at 393 (distinguishing cell phones from other objects on an arrestee's person and requiring a warrant to search a phone incident to arrest).

This same principle applies to government collection of DNA. Whenever law enforcement collects a sample of an individual's DNA, it gains access, not just to the loci that the government uses to confirm an individual's identity, but also to the entirety of that person's genetic blueprint. Here, similar to the searches in *Riley* and *Carpenter*, the OCDNA program has access to *all* of the genetic information in DNA samples.

Finally, as discussed above, scientific research continues to show that the profiles maintained in databases like CODIS can identify far more

about individuals than who they are. *See supra* Section I.A. The availability of these techniques matters for an expectation of privacy analysis, which requires courts to "take account of more sophisticated systems that are already in use or in development." *Carpenter*, 138 S. Ct. at 2218 (quotation and citation omitted). For this reason, even the government's collection and retention of STRs used just for identity is a Fourth Amendment-protected search and implicates an arrestee's reasonable expectation of privacy. Although the Supreme Court upheld the warrantless collection of DNA from arrestees nearly a decade ago in *King*, it recognized that if subsequent scientific advances in DNA technology allow law enforcement to learn more about a person than just who they are, future cases "would present additional privacy concerns." 569 U.S. at 464–65; *see also Buza*, Cal. 4th at 689 (citing *King* and recognizing this would require "a new Fourth Amendment analysis").

3. *The OCDNA Program Breaches Social Norms.*

The OCDNA program constitutes "a serious invasion of privacy," because collecting and analyzing misdemeanor arrestees' DNA is "an egregious breach of the social norms underlying the privacy right." *Hill*, 7 Cal. 4th at 37. *See, e.g., Hansen*, 920 F. Supp. at 1506 (observation of urination was a serious invasion of privacy). OCDA's collection and indefinite storage of DNA samples is a paradigmatic example of the kind of

stockpiling of personal and private information that the court was concerned about in *Hill*. 7 Cal. 4th at 35–36. With all that DNA holds and all that it can reveal about a person's familial, sexual, and medical history, collecting arrestees' DNA under the coercive circumstances of the OCDNA program should be viewed as an egregious breach of societal norms.

B. Courts Should Be Reluctant to Find Individuals Have Waived Their Right to Privacy in their DNA, Especially Under Circumstances Like Those Present in the OCDNA Collection Scheme.

Because the protection for individuals' DNA is at the core of the protections of the California Constitution's privacy clause, courts should be especially reluctant to find that all misdemeanor arrestees relinquish this far-reaching right merely by "signing waivers." *See In re Ricardo P.*, 7 Cal. 5th 1113 (2019) (finding that condition of probation allowing broad search of electronic devices burdened privacy interests protected by Article I, Section 1). Courts evaluate consent for Fourth Amendment search purposes by asking whether the search was "voluntary," which "is a question of fact to be determined from all the circumstances." *Schneckloth v. Bustamonte*, 412 U.S. 218, 248–49 (1973). Even if arrestees could theoretically provide full, voluntary consent to the OCDNA collection scheme, Plaintiffs have provided numerous allegations that the waivers relied on by the government do not meet the standard for consent because they are not knowingly

executed and occur in an inherently coercive setting. Opening Br. at 54–59.[75]

Especially when considering invasive searches like the collection, analysis, and retention of DNA, there are good reasons to be skeptical of an individual's purported consent to a search.

First, a person consenting to the mere collection of a DNA sample is unlikely to be aware of the extent of the government's power to analyze their DNA and the intimate and personal information it may produce. *See* Section I, *supra*; *Florida v. Jimeno*, 500 U.S. 248, 252 (1991) (consent searches are limited by the scope of the permission granted). Nor is a reasonable person likely to understand that this one-time collection of a DNA sample enables the government to subject their DNA to further analysis in the future as new, more revealing methods are developed, as well as to disseminate it to third parties who may be unconstrained in their use of the DNA.

The risks of purported consent searches of DNA can be seen in a highly analogous context: searches of cell phones and other electronic devices. As the U.S. Supreme Court held in *Riley*, these devices hold for many Americans the 'privacies of life,'" and searches of them have the

[75] Amicus also agrees with Plaintiffs that the trial court decided this issue prematurely by ruling on the County's waiver arguments at the demurrer stage. Opening Br. at 50–53.

potential to "implicate privacy concerns far beyond those implicated" by the search of any other object, and thus require heightened constitutional protections. *Riley*, 573 U.S. at 393, 403. A recent watershed study by the nonprofit organization Upturn found that more than 2,000 law enforcement agencies, located in all 50 states, have purchased surveillance technology that can conduct "forensic" searches of mobile devices.[76] These tools are designed to extract "the maximum amount of information possible" from a phone, including a user's contacts, call logs, text conversations, photos, videos, saved passwords, GPS location records, phone usage records, online account information, and app data.[77] Crucially, the Upturn Report found that law enforcement agencies used these forensic tools hundreds of thousands of times since 2015 alone, and that large percentages of these "mass extraction[s]" rely on users' purported consent to search.[78] But, as with collection of a DNA sample, an ordinary person "likely doesn't even have a rough idea of what's really about to happen to their phone" when they are asked to consent to a search.[79] Before the Upturn Report's

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[76] *Mass Extraction: The Widespread Power of U.S. Law Enforcement to Search Mobile Phones*, Upturn, 32 (Oct. 2020), https://www.upturn.org/reports/2020/mass-extraction/ ("Upturn Report").

[77] *Id*. at 10, 16.

[78] *Id*. at 41, 46–47.

[79] *Id*. at 60.

publication, there was virtually no public accounting of how these forensic surveillance tools work, so individuals are highly unlikely to provide knowing and voluntary consent to such an invasive search.

Second, particularly in the coercive context alleged in this case, consent searches frequently rely on a legal fiction. As Justice Marshall wrote in dissent in *Schneckloth*, "[a]ll the police must do is conduct what will inevitably be a charade of asking for consent. If they display any firmness at all, a verbal expression of assent will undoubtedly be forthcoming." 412 U.S. at 284 (Marshall, J., dissenting). Legal scholars have similarly argued that coercion plays a key role in securing consent to search.[80] And indeed, both real-world and experimental data shows that the overwhelming majority of people "consent" when asked. For example, statistics on all traffic stops in Illinois from 2015–2018 show that about 85 percent of white drivers and about 88 percent of minority drivers grant consent to search their vehicles.[81] Similarly, in a 2019 study in the *Yale*

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[80] *See, e.g.*, Marcy Strauss, *Reconstructing Consent*, 92 J. Crim. L. & Criminology 211, 236 (2001) ("most people would not feel free to deny a request by a police officer"); Janice Nadler, *No Need to Shout: Bus Sweeps and the Psych. of Coercion*, 2002 Sup. Ct. Rev. 153, 156 (2002) ("the fiction of consent in Fourth Amendment jurisprudence has led to suspicionless searches of many thousands of innocent citizens who 'consent' to searches under coercive circumstances").

[81] *See Illinois Traffic Stop Study 2015*, 1, https://idot.illinois.gov/Assets/uploads/files/Transportation-

Law Journal, 97 percent of participants who were asked to unlock their phone for a search complied.[82] Meanwhile, in a second study, the researchers asked whether a hypothetical reasonable person would agree to unlock their phone for a search, and more than 80 percent of participants predicted that a reasonable person would *refuse* to grant consent.[83] The authors observed that this "empathy gap" appears in many social psychology experiments on obedience.[84] They warned that judges in the

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System/Reports/Safety/Traffic-Stop-Studies/2015/2015%20ITSS%20Statewide%20and%20Agency%20Reports.pdf (85.59% of white drivers consented to search request, 89.97% of minority drivers); *Illinois Traffic Stop Study 2016*, 1, https://idot.illinois.gov/Assets/uploads/files/Transportation-System/Reports/Safety/Traffic-Stop-Studies/2016/2016%20ITSS%20Statewide%20and%20Agency%20Reports.pdf (85% of white drivers consented to search request, 88% of minority drivers); *Illinois Traffic Stop Study 2017* 1, https://idot.illinois.gov/Assets/uploads/files/Transportation-System/Reports/Safety/Traffic-Stop-Studies/2017/2017%20ITSS%20Statewide%20and%20Agency%20Reports.pdf (84.66% of white drivers consented to search request, 87.82% of minority drivers); *Illinois Traffic Stop Study 2018* 1, https://idot.illinois.gov/Assets/uploads/files/Transportation-System/Reports/Safety/Traffic-Stop-Studies/2018/2018%20ITSS%20Statewide%20and%20Agency%20Reports.pdf (84.82% of white drivers consented to search request, 88.17% of minority drivers).

[82] Roseanna Sommers & Vanessa K. Bohns, *The Voluntariness of Voluntary Consent*, 128 Yale L.J. 1962, 1985, 1987 (2019).

[83] *Id*. at 1996.

[84] *Id*. at 2004.

safety of their chambers may assume that motorists stopped by police feel free to refuse search requests—when most motorists in fact do not.[85]

Particularly relevant to circumstances of the OCDNA program, a wide body of research shows that across different contexts, most people do not read consent forms.[86] This is especially true when the person is in police custody, under investigation, or otherwise confronted with the power of the state. "[A] consent form may do relatively little to improve a suspect's understanding of her rights, particularly when the suspect is poorly educated, frightened, or otherwise unable to understand the form."[87] Further, "once the suspect has been given the form, the inclination is merely to read it rather than to engage in a dialogue with the officer designed to clarify the meaning of the form."[88]

Finally, consent searches exacerbate the risks of systemic racial and other bias that are attendant in nearly every aspect of the criminal justice

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[85] *Id*. at 2011–13.

[86] *See, e.g*., Benjamin D. Douglas et al., *Some Rschs. Wear Yellow Pants, but Even Fewer Participants Read Consent Forms: Exploring and Improving Consent Form Reading in Human Subjects Rsch*., 26 Psych. Methods 61, 62 (2021) ("Participants do not thoroughly read, comprehend, or recall information in consent forms" in medical trials or procedures.).

[87] Nancy Leong & Kira Suyeishi, *Consent Forms and Consent Formalism*, 2013 Wis. L. Rev. 751, 753 (2013).

[88] *Id*. at 789.

system. For example, the Illinois State Police in 2019 were nearly twice as likely to seek consent to search the cars of Latinx drivers compared to white drivers. Yet, they were more than twice as likely to find contraband when searching the cars of white drivers compared to Latinx drivers.[89] Data from other years showed similar racial disparities.[90]

For all of these reasons, the OCDNA program cannot be justified on the basis of waiver, particularly in the absence of facts demonstrating that arrestees actually provide true, voluntary consent to have their DNA collected.

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[89] *Illinois Traffic and Pedestrian Stop Study 2019 Annual Report: Traffic Stops* 534 (0.44% of ISP stops of white drivers or passengers and 0.79% of stops of Hispanic or Latino drivers or passengers resulted in consent searches; contraband found in 14% searches of white and 6.6% of Hispanic or Latino drivers or passengers), *available at* https://idot.illinois.gov/Assets/uploads/files/Transportation-System/Reports/Safety/Traffic-Stop-Studies/2019/FINAL--Part II Traffic Stop Report--Tables--7-1-20.pdf (0.44% of ISP stops of white drivers or passengers and 0.79% of stops of Hispanic or Latino drivers or passengers resulted in consent searches; contraband found in 14% searches of white and 6.6% of Hispanic or Latino drivers or passengers).

[90] Letter from ACLU of Illinois to DOJ (June 7, 2010), https://www.aclu-il.org/sites/default/files/field_documents/aclu_to_doj_6-7-11.pdf (citing traffic stop data from 2004–2009); *see also, e.g.*, Devon W. Carbado, *(E)Racing the Fourth Amend.*, 100 Mich. L. Rev. 946, 971–973, n.121 (2002).

III. GIVEN THE STRONG PRIVACY INTERESTS CALIFORNIANS HAVE IN THEIR DNA, DNA POLICY SHOULD BE SET AT THE STATE, RATHER THAN LOCAL, LEVEL.

Considering the significant privacy interests that Californians have in their DNA, as discussed above, public policy favors a uniform approach toward DNA collection and retention decided at the state level rather than on jurisdiction-by-jurisdiction basis for all of California's 58 counties and hundreds of cities.

A. State Statutes Do Not Give the OCDA Blanket Authority to Create a Program that Collects DNA from Presumed-Innocent Misdemeanor Arrestees.

In their brief, Defendants claim two state statutes grant the OCDA authority for the creation of the OCDNA program. The first is a vaguely worded law that allows district attorneys to "sponsor, supervise, or participate in any project or program to improve the administration of justice." Cal. Gov't Code § 26500.5; Resp. Br. 43. Defendants claim that this provision is to be construed "broadly." Resp. Br. 43. This argument fails for three reasons.

First, the statute was enacted in 1973, long before DNA was ever used for law enforcement purposes. In light of the serious privacy and liberty concerns present in the collection and retention of DNA, *see supra* Section I, construing this statute to authorize the collection of tens of thousands of residents' DNA is a strained reading at best. Second, courts,

including the California Supreme Court, have not viewed "the administration of justice" as an unlimited grant of power. *See Safer v. Super. Ct.*, 15 Cal. 3d 230, 237 (1975) (courts "have imposed liability upon the district attorney when he overstepped the boundaries of his official authorization and its attendant immunities . . . even when the authorization in question framed the asserted powers in broad and general terms."). Placing limitations on the actions of district attorneys is even more important in light of the "great power" that district attorneys have, which if not wielded carefully, could be "converted into an instrument of persecution." *Id.* at 237 n.11 (citing *People v. Hail*, 25 Cal. App. 342, 358 (1914)). Third, "the administration of justice" cannot include the creation of a program that violates the state constitution. *See supra* Section II.

Defendants also claim that the Penal Code provides "direct and specific statutory law that authorizes OCDNA." Resp. Br. 43. The relevant statute reads:

> Nothing in this chapter shall limit or abrogate any existing authority of law enforcement officers to take, maintain, store, and utilize DNA or forensic identification markers, blood specimens, buccal swab samples, saliva samples, or thumb or palm print impressions for identification purposes.

Cal. Penal Code § 300. Far from being a silver bullet, this provision provides no additional grant of authority to legitimize the OCDNA program

because it specifically allows collection and maintenance of DNA "for identification purposes." But under the OCDNA program, DNA is not collected for identification purposes, but rather for *investigative* purposes, namely to "[s]ubstantially reduce the number of unsolved crimes," "to help stop serial crime" by comparing DNA profiles to investigations and cases, and "to exonerate persons wrongfully suspected or accused of crime." Resp. Br. 58–59.

B. DNA Collection Is a Matter of Statewide Concern.

As demonstrated by both the abundance of case law and numerous statewide initiatives, the matter of DNA collection and storage is one of statewide, rather than local, concern.

1. *The Closely Divided Debate Among Voters and Courts on DNA Collection As It Pertains to the Criminal Justice System Show This Issue Cannot be Decided by Local Jurisdictions.*

The early cases on the rules regarding DNA collection and storage resulted in sharply divided court opinions, both within and outside of California. *See, e.g.*, *Buza*, 180 Cal. Rptr. at 762 (collecting federal and state court cases regarding the collection of DNA from people convicted of qualifying offenses and recognizing "the significant debate and disagreement among the judges who decided these cases.").

In 2004, Proposition 69 became the first initiative for California voters to weigh in on the use of DNA for law enforcement purposes at the

statewide level. The proposition significantly expanded the scope of the statewide DNA database to include, by 2009, collection from all individuals convicted of a felony offense and some misdemeanor offenses, as well as adults arrested for any felony offenses.[91] The initiative became law with over 62 percent of the vote.[92] In addition to requiring DNA collection, the law also includes confidentiality provisions, including criminal and civil penalties for misuse of a DNA sample or profile, as well as an opportunity for expungement for those who no longer meet the criteria for mandated DNA collection. Cal. Penal Code §§ 299, 299.5.

In contrast to the early years of expanded DNA use in the law enforcement context, the past decade has seen a shift toward criminal justice reform efforts accompanied by increased privacy protections.

In 2014, voters passed Proposition 47 with 59 percent in favor of the initiative.[93] The same trend held true in Orange County, where voters

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[91] *California Proposition 69, Required Collection of Felon DNA Samples Initiative (2004)*, Ballotpedia, https://ballotpedia.org/California_Proposition_69,_Required_Collection_of_Felon_DNA_Samples_Initiative_(2004).

[92] *Id*.

[93] Marisa Lagos, *Proposition 47 Criminal Justice Reform Projected to Save State Over $122 Million*, KQED (Jan. 16, 2020), https://www.kqed.org/news/11796149/voter-approved-criminal-justice-reform-expected-to-save-state-over-122-million.

passed the law by a 53 to 46 percent margin.[94] The law reclassified certain theft offenses valuing less than $950 and most drug possession offenses involving personal use from "wobblers" (i.e. offenses that can be charged as either felonies or misdemeanors) to misdemeanors.[95] The law also applies retroactively.[96] Under Proposition 47, those individuals arrested for or convicted of offenses reclassified as misdemeanors are no longer subject to mandatory DNA provision.[97]

In November 2020, the issue of DNA collection for certain crimes was again squarely before voters as a result of Proposition 20. Among other provisions, the initiative would have required state and local law enforcement agencies to collect DNA from adults charged with crimes that were reclassified from felonies to misdemeanors under Proposition 47. The

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[94] *Supplement to the Statement of Vote – Statewide Summary by County for State Ballot Measures – Nov. 4, 2014 General Election*, California Secretary of State, 51 https://www.sos.ca.gov/elections/prior-elections/statewide-election-results/general-election-november-4-2014/statement-vote (last visited Oct. 26, 2022).

[95] Hayley Munguia, *What to Expect Now That California Passed Prop 47*, FiveThirtyEight (Nov. 6, 2014), https://fivethirtyeight.com/features/what-to-expect-california-prop-47/.

[96] *Resentencing – My Prop 47*, MyProp47.org, https://myprop47.org/resentencing/.

[97] John Woolfolk, *Why is California fighting over collecting criminals' DNA?*, East Bay Times (May 3, 2018), https://www.eastbaytimes.com/2018/05/03/golden-state-killer-case-why-is-california-fighting-over-collecting-criminals-dna.

misdemeanor offenses included shoplifting, grand theft, knowingly receiving stolen items, check forging, check fraud, and possessing certain controlled substances. It would also have required the collection of DNA samples for offenses unaddressed by Proposition 47, including domestic violence, prostitution with a minor, battery of a current or former spouse or intimate partner, corporal injury against a current or former spouse or intimate partner, or certain types of elder abuse. The initiative was supported by several county prosecutors, including Defendant Spitzer.[98] Voters overwhelmingly rejected Proposition 20, with over 60 percent statewide voting to oppose the measure.[99] The same held true in Orange County, where voters rejected the measure by a 58 to 42 percent margin.[100]

However, despite this trend among voters in Orange County and across the state to limit state-mandated DNA collection for low-level

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[98] Patrick McGreevey, *Prop. 20 sparks debate over effects of criminal justice reform in California*, L.A. Times (Oct. 16, 2020), https://www.latimes.com/california/story/2020-10-16/proposition-20-criminal-justice-reform-changes-california.

[99] Don Thompson, *California votes to keep criminal justice changes*, Associated Press (Nov. 3, 2020), https://apnews.com/article/crime-california-jerry-brown-police-reform-61e84f9cf13bb9a11c493b78664abc54.

[100] *Supplement to the Statement of Vote – Nov. 3, 2020 General Election*, *Statewide Summary by County for State Ballot Measures*, at 58, https://elections.cdn.sos.ca.gov/sov/2020-general/ssov/ballot-measure-summary.pdf.

offenses, the OCDNA program collects and maintains an extensive DNA database for exactly these types of infractions. This only further highlights the need for such decisions to be made at a statewide level rather than left in the hands of local officials whose priorities do not reflect the will of the voters.

2. *The Lack of Safeguards Associated with Local DNA Databases Favors a Statewide, Rather Than Local, Scheme.*

Unlike CODIS and the statewide database, which are subject to strict regulations, local DNA databases, including OCDNA, lack even remotely adequate safeguards. This results in a lack of transparency with respect to the exact crimes and circumstances for which DNA is collected, the type of information stored in local databases, and with whom that information is shared. It has also resulted in repeated missteps by law enforcement resulting in public outcry.

Earlier this year, the San Francisco Police Department made national news when the city's District Attorney revealed that police entered a rape victim's DNA into a local database used to identify suspects in crimes. Her DNA was then used to identify her for an unrelated property crime.[101] Because of a lack of safeguards, the District Attorney stated that

[101] Megan Cassidy, *San Francisco police linked a woman to a crime using DNA from her rape exam, D.A. Boudin says*, S.F. Chronicle (Feb. 14,

the database could contain thousands of victims' DNA profiles spanning "many, many years."[102] In response, both the San Francisco Board of Supervisors and the California Legislature passed legislation prohibiting rape kit DNA from being used to identify suspects in other crimes.[103] Academics had long warned of this risk when proposing external regulations to local DNA databases.[104]

This example of misuse is far from an outlier. The San Diego Police Department regularly conducted stops of juveniles, who were only free to leave after "consenting" to provide DNA samples.[105] In New York, following the murder of a woman in a Queens park, the NYPD collected DNA from 360 Black men and entered it into a database maintained by the

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2022), https://www.sfchronicle.com/sf/article/San-Francisco-police-linked-a-woman-to-a-crime-16918673.php.

[102] *Id*.

[103] Eduardo Medina, *Woman Sues San Francisco Over Arrest Based on DNA From Her Rape Kit*, N.Y. Times (Sept. 13, 2022), https://www.nytimes.com/2022/09/13/us/rape-kit-dna-san-francisco.html.

[104] *See, e.g.*, Jason Kreag, *Going Local: The Fragmentation of Genetic Surveillance*, 95 B.U. L. Rev. 1491, 1550 (2015).

[105] Kelly Davis, *SDPD Finds a Way Around State Law Limiting DNA Collection from Juveniles*, Voice of San Diego (Feb. 15, 2017), https://voiceofsandiego.org/2017/02/15/sdpd-has-found-a-way-around-state-law-forbidding-dna-collections-from-juveniles/.

city medical examiner's office.[106] None of the DNA collected in these contexts could have been entered into state or federal databases because they failed to meet the requirements of the strict laws and regulations governing those systems.[107]

3. *DNA Databases Have Not Been Shown to Reduce Crime, Further Counseling Against Creating Invasive Local Databases.*

Research has repeatedly shown that, notwithstanding anecdotal claims by government officials to the contrary, collecting DNA from more people does not automatically lead to more crimes being solved, especially when those people provided DNA after being arrested for minor crimes. After California began collecting DNA from arrestees, the number of profiles in its state database increased dramatically,[108] making California's databank the largest state database in the country and the third largest in the

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[106] Jan Ransom & Ashley Southall, *'Race-Biased Dragnet': DNA From 360 Black Men Was Collected to Solve Vetrano Murder, Defense Lawyers Say*, N.Y. Times (Mar. 31, 2019), https://www.nytimes.com/2019/03/31/nyregion/karina-vetrano-trial.html.

[107] *See, e.g.*, *Frequently Asked Questions on CODIS and NDIS*, FBI, https://www.fbi.gov/how-we-can-help-you/dna-fingerprint-act-of-2005-expungement-policy/codis-and-ndis-fact-sheet (listing applicable statutes and regulations governing DNA that may be indexed by CODIS).

[108] *See, e.g.*, *DNA Frequently Asked Questions: Effects of the All Adult Arrestee Provision*, Cal. Bureau of Forensic Servs., http://oag.ca.gov/bfs/prop69/faqs (noting that after California's arrestee DNA collection law passed, the average DNA submission rate doubled from 12,000 per month in 2008 to 26,500 per month in 2009).

world.[109] But despite the size of its database, California "is anomalous in the relatively low number of investigations aided."[110] Similar studies looking at databases throughout Europe found the same to be true—larger databases do not solve more crimes.[111] A more recent study conducted in the United Kingdom concluded that "while DNA databases may offer slightly improved detection or conviction rates, the overall contribution of DNA databases to public safety may be negligible."[112] The study examined the UK national DNA database, described as "the most inclusive DNA

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[109] Jeremiah Goulka, et al., *Toward a Comparison of DNA Profiling and Databases in the United States and England*, RAND 18 (2010) http://www.rand.org/content/dam/rand/pubs/technical_reports/2010/RAND_TR918.pdf (hereinafter RAND Report).

[110] *Id*. at 19.

[111] Filipe Santos et al., *Forensic DNA databases in European countries: is size linked to performance?*, 9:12 Life Sci Soc Policy (Dec. 2013), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4513018/ ("We argue that expansive criteria for inclusion and retention of profiles do not necessarily translate into significant gains in output performance."); Victor Toom, *Forensic DNA Databases in England and the Netherlands: Governance, Structure and Performance Compared*, 31:3 New Genetics and Society 311 (2012), https://www.academia.edu/515387/Forensic_DNA_databases_in_England_and_the_Netherlands_governance_structure_and_performance_compared_2012_.

[112] Aaron Opoku Amankwaa & Carole McCartney, *The effectiveness of the UK national DNA database*, 1 Forensic Science Int'l: Synergy 45, 53 (2019), https://www.sciencedirect.com/science/article/pii/S2589871X19300713.

database in the world,"[113] and found that despite the expansiveness of the database, its effectiveness was fairly limited.

The same is true with respect to OCDNA. As Plaintiffs have noted in this case, by 2019, the OCDNA database contained DNA from more than 182,000 individuals. FAC ¶ 2. Despite this large number of samples, however, only three solved cases can be conclusively linked to Orange County's program.[114] In fact, the ability of the police to solve crimes using DNA is "more strongly related to the number of crime-scene samples than to the number of offender profiles in the database."[115] Research has repeatedly shown that "improving the collecting of DNA from crime scenes," not even from known offenders, much less low-level arrestees, "would make the real difference in solving cases."[116] The fact that collecting DNA from more people does not lead to increased resolution of criminal cases also counsels against county-by-county programs to collect DNA outside state-approved contexts.

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[113] *Id*. at 46.

[114] Roth, *Spit and Acquit*, 107 Cal. L. Rev. at 430.

[115] Erin Murphy, *Inside the Cell*, 271, *supra* n. 40.

[116] *Id*. at 271-74 (discussing multiple studies to this effect); *see also* Brief of 14 Scholars of Forensic Evidence as Amici Curiae, 8, *Maryland v. King,* 569 U.S. 435 (citing data released from *Haskell v. Harris*, 669 F.3d 1049 (9th Cir. 2012), a federal court litigation challenging California's arrestee DNA collection law, to demonstrate this in California as well).

CONCLUSION

For the reasons above, the Court should reverse the trial court's grant of demurrer to Defendants.

Respectfully submitted,

Dated: October 27, 2022 /s/ *Jennifer Lynch*

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CERTIFICATE OF WORD COUNT

I certify pursuant to California Rules of Court 8.204 and 8.504(d) that this Amicus Brief of Electronic Frontier Foundation, is proportionally spaced, has a typeface of 13 points or more, contains 11,931 words, excluding the cover, the tables, the signature block, verification, and this certificate, which is less than the total number of words permitted by the Rules of Court. Counsel relies on the word count of the Microsoft Word word-processing program used to prepare this brief.

Dated: October 27, 2022

/s/ Jennifer Luynch
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CERTIFICATE OF SERVICE

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