

# REBECCA S. JUST

SUPERVISORY RESEARCH ANALYST

ARMED FORCES DNA IDENTIFICATION LABORATORY

1413 RESEARCH BOULEVARD, ROCKVILLE, MD 20850

TEL. 301-319-0224 ♦ FAX 310-295-5932 ♦ REBECCA.S.JUST@US.ARMY.MIL

## Education

- |      |                           |  |
|------|---------------------------|--|
|      | PhD student, Biology      | University of Maryland, College Park, MD     |
| 2002 | MFS, Forensic Science     | George Washington University, Washington, DC |
| 2000 | BA, Biology and Sociology | Hamilton College, Clinton, NY                |

## Professional Experience

- |              |  |
|--------------|--|
| 2005-present | Supervisory Research Analyst, Research Section, Armed Forces DNA Identification Laboratory, Rockville, MD      |
| 2003-2005    | Research Supervisory Technologist, Research Section, Armed Forces DNA Identification Laboratory, Rockville, MD |
| 2002-2003    | Research DNA Technician, Research Section, Armed Forces DNA Identification Laboratory, Rockville, MD           |

## Teaching Experience

- |           |   |
|-----------|---|
| 2009      | Guest Lecturer, Advanced DNA Profiling, George Washington University<br><i>Entire mtDNA Sequencing: Applications in Forensic Genetics</i>                           |
| 2009      | Guest Lecturer, Principles of Forensic Pathology, George Washington University<br><i>Introduction to DNA Analysis</i>   |
| 2006-2009 | Guest Lecturer, Forensic DNA Profiling, George Washington University<br>Multiple topics: RFLP/DQA; SNPs; miniSTRs   |
| 2006-2008 | Research Advisor, Master of Forensic Science Program, George Washington University<br>Multiple topics: Commercial kit evaluation; miniSTRs; mtDNA multiplexes; SNPs |
| 2000      | Instructor, Princeton Review <i>Hyperlearning</i> <sup>®</sup> MCAT Test Preparation Course<br>Sections taught: Biological Sciences; Verbal Reasoning; Writing      |

## Additional Education and Training

- |      |  |
|------|--|
| 2009 | Workshop on Molecular Evolution, Marine Biological Laboratory        |
| 2007 | Statistics Workshop, Mid-Atlantic Association of Forensic Scientists |
| 2003 | Grant Writing Seminar, Armed Forces Institute of Pathology           |

## Additional Experience

- |      |  |
|------|--|
| 2005 | Deployment for DNA specimen collection following Hurricane Katrina<br>DMORT West (St. Gabriel, LA) and DMORT East (Gulfport, MS) morgue operations |
|------|--|

## Professional Organization Memberships

American Society of Human Genetics  
American Academy of Forensic Sciences  
International Society for Forensic Genetics  
Mid-Atlantic Association of Forensic Scientists

## Manuscript Reviews

Forensic Science International: Genetics

## Professional Honors

2003 Excellence in the Organization and Performance of Scientific Research, Armed Forces DNA Identification Laboratory

## Peer-Reviewed Publications

- Diegoli TM, Irwin JI, **Just RS**, Saunier JL, O'Callaghan JE, Parsons TJ. Mitochondrial control region sequences from an African American population sample. *Forensic Sci. Int.: Genet. In press.*
- 2009 **Just RS**, Leney MD, Barritt SM, Los CW, Smith BC, Holland TD, Parsons TJ. The use of mtDNA SNPs to assist in the resolution of three challenging forensic cases. *J. Forensic Sci.* 54 (2009) 887-891.
- 2008 **Just RS**, Diegoli TM, Saunier JL, Irwin JA, Parsons TJ. Complete mitochondrial genome sequences for 265 African American and U.S. "Hispanic" individuals. *Forensic Sci. Int.: Genet.* 3 (2008) e45-48.
- 2008 Saunier JL, Irwin JA, **Just RS**, O'Callaghan JE, Parsons TJ. Mitochondrial control region sequences from a U.S. "Hispanic" population sample. *Forensic Sci. Int.: Genet.* 2 (2008) e19-e23.
- 2008 Parson W, Fendt L, Ballard D, Børsting C, Brinkmann B, Carracedo A, Carvalho M, Coble M, Corte Real F, Desmyter S, Dupuy B, Harrison C, Hohoff C, Hoste B, **Just R**, Kramer T, Morling N, Salas A, Schmitter H, Schneider P, Vallone P, Brandstätter A. Identification of West Eurasian mitochondrial haplogroups by mtDNA SNP screening: Results of the 2006-2007 EDNAP collaborative exercise. *Forensic Sci. Int.: Genet.* *Forensic Sci. Int.: Genet.* 2 (2008) 61-68.
- 2007 Nelson TM, **Just RS**, Loreille O, Schanfield M, Podini D. Development of a multiplex single base extension assay for mtDNA genome haplogroup typing. *Croat Med J.* 48 (2007) 460-472.
- 2007 Irwin JA, Edson SM, Loreille O, **Just RS**, Barritt SM, Lee DA, Holland TD, Parsons TJ, Leney MD. DNA identification of "Earthquake McGoon" 50 years postmortem. *J Forensic Sci.* 52 (2007).
- 2007 Irwin JA, Saunier JL, Strouss KM, Sturk KA, Diegoli TM, **Just RS**, Coble MD, Parson W, Parsons TJ. Development and expansion of high quality control region databases to improve forensic mtDNA evidence interpretation. *Forensic Sci. Intl. Genet.* 1 (2007) 154-157.

- 2006 Dixon LA, Dobbins AE, Pulker H, Butler JM, Vallone PM, Coble MD, Parson W, Berger B, Brubweiser P, Mogensen HS, Morling N, Nielsen K, Sanchez JJ, Petkovski E, Carracedo A, Sanchez-Diz P, Brión M, Irwin JA, **Just RS**, Loreille O, Parsons TJ, Syndercrombe-Court D, Schmitter H, Gill P. Analysis of artificially degraded DNA using STRs and SNPs – Results of a collaborative European (EDNAP) exercise, *Forensic Sci Int.* 164 (2006) 33-44.
- 2006 Coble MD, Vallone PM, **Just RS**, Diegoli TM, Smith BC, Parsons TJ. Effective strategies for forensic analysis in the mitochondrial DNA coding region, *Int. J. Legal Med.* 120 (2006) 27-32.
- 2006 Kovatsi L, Parsons TJ, **Just RS**, Irwin JA. Genetic Variation for 15 autosomal STR loci (PowerPlex 16) in a population sample from northern Greece, *Forensic Sci Int.* 159 (2006) 61-63.
- 2004 Coble MD, **Just RS**, O’Callaghan JE, Letmanyi IH, Peterson CT, Irwin JA, Parsons TJ. Single nucleotide polymorphisms over the entire mtDNA genome that increase the power of forensic testing in Caucasians, *Int. J. Legal Med.* 118 (2004) 137-146.
- 2004 Vallone PM, **Just RS**, Coble MD, Butler JM, Parsons TJ. A multiplex allele-specific primer extension assay for forensically informative SNPs distributed throughout the mitochondrial genome, *Int. J. Legal Med.* 118 (2004) 147-157.

## Book Chapters

Irwin J, **Just R**, Coble M, Parsons T. Mitochondrial DNA sequencing in forensics, in “DNA Sequencing Protocols: Third Edition” (editor: Michael Metzker, Humana Press, *in press*).

## Encyclopedia Articles

- 2009 Coble MD, **Just RS**. MiniSTRs, in “The Wiley Encyclopedia of Forensic Sciences” (editor: Allan Jamieson, John Wiley & Sons Inc.).

## Invited Publications

- 2008 Sturk KA, Coble MD, Barritt SM, Parsons TJ, **Just RS**. The application of mtDNA SNPs to a forensic case, *Forensic Sci. Int.: Genet. Supplement Series 1* (2008) 295-297.
- 2004 **Just RS**, Irwin JA, O’Callaghan JE, Saunier JL, Coble MD, Vallone PM, Butler JM, Barritt SM, Parsons TJ. Toward increased utility of mtDNA in forensic identifications, *Forensic Sci. Int.* 146S (2004) S147-S149.

## Presentations at Professional Conferences and Symposia

### *Oral Presentations*

- 2008 **Just RS**, Loreille O, Coble MD, Sturk K, Parr R. *Resolution of a case of historical interest: Titanic’s unknown child.* Applied Biosystems’ 8<sup>th</sup> Annual Future Trends in DNA Technology Seminar Series. Washington, DC, and Chicago, IL.
- 2008 **Just RS**, Coble MD. *Mitochondrial DNA, Y-STRs, and emerging forensic DNA tools.* Forensic Bioinformatics 7<sup>th</sup> Annual Conference, The Science of DNA Profiling: A National Expert Forum. Dayton, OH.

- 2008 Irwin JA, **Just RS\***, Coble MD. *Development and use of mitochondrial DNA databases*. Forensic Bioinformatics 7<sup>th</sup> Annual Conference, The Science of DNA Profiling: A National Expert Forum. Dayton, OH. (\*presenter)
- 2008 **Just RS**, Loreille O, Coble MD, Sturk K, Parr R. *Titanic's unknown child*. English Speaking Working Group Meeting of the International Society for Forensic Genetics, Sinaia, Romania.
- 2008 **Just RS**, Lehrmann AM, Harris KE, Coble MD. *Comparison of the mitoSEQr Resequencing sets to standard mtDNA sequencing protocols*. English Speaking Working Group Meeting of the International Society for Forensic Genetics, Sinaia, Romania.
- 2008 Coble MD, **Just RS**, Irwin JA, Los CW, Leney M, Barritt-Ross SM, Parsons TJ. *Resolution of a challenging case using mtDNA SNPs and LCN PP16 testing*. SPIE Defense + Security Conference, Orlando, Florida.
- 2007 **Just RS**, Sturk KA, Barritt SM, Irwin JA, Coble MD. *Non-CODIS miniSTRs: assay development and applications*. 5<sup>th</sup> ISABS Conference in Forensic Genetics and Medical Anthropology, Split, Croatia.
- 2007 Nelson TM, **Just RS**, Loreille O, Schanfield M, Podini D. *Development of a multiplex single base extension assay for mtDNA haplogroup typing*. 5<sup>th</sup> ISABS Conference in Forensic Genetics and Medical Anthropology, Split, Croatia.
- 2007 **Just RS**, White AN, Sturk KA, Campbell CL, Bas JZ, McMahon TP, Coble MD, Lee DA. *Validation of the AB MiniFiler kit at AFDIL*. Fourth Annual Advanced DNA Technical Workshop, Captiva, FL.
- 2007 **Just RS**, Sturk KA, Barritt-Ross SM, Irwin JA, Loreille O, Coble MD. *The application of non-CODIS miniSTRs to highly degraded samples*. American Academy of Forensic Sciences 59<sup>th</sup> Annual Scientific Meeting, San Antonio, TX.
- 2007 Sturk KA, White AN, **Just RS**, Campbell CL, Coble MD, Lee DA. *Evaluation of the Applied Biosystems MiniFiler kit for use with challenging casework samples*. AB Roadshow (multiple cities).
- 2006 Wadhams MJ, **Just RS**, Coble MD. *Using a SNP assay to differentiate skeletal remains from past military conflicts*. 2006 SWAFS/NWAFS Combined Training Conference, Colorado Springs, CO.
- 2006 Coble MD, Irwin JA, Strouss KM, Saunier JL, Diegoli TM, Sturk KA, **Just RS**, Parsons TJ. *Development and expansion of high-quality control region databases to improve forensic mtDNA evidence interpretation*. DNA in Forensics 2006, Innsbruck, Austria.
- 2006 Coble MD, Irwin JA, **Just RS**, Saunier JL, Diegoli TM, Strouss KM, Sturk KA, Parsons TJ. *mtDNA SNPs and control region databases to increase mtDNA utility in forensics*. NIJ 7<sup>th</sup> Annual DNA Grantees Workshop, Arlington, VA.
- 2006 **Just RS**, Irwin JA, Los CW, Leney M, Barritt-Ross SM, Parsons TJ. *Resolution of a challenging case using mtDNA SNPs and LCN PP16 testing*. English Speaking Working Group Meeting of the International Society of Forensic Genetics, Helsinki, Finland.
- 2006 Irwin JA, Saunier JL, Strouss KM, Sturk KA, Diegoli TM, Parson W, Brandstaetter A, **Just RS**, Parsons TJ. *Investigation of point heteroplasmy in the mitochondrial control region: a synthesis of observations from nearly 5000 global population samples*. English Speaking Working Group Meeting of the International Society of Forensic Genetics, Helsinki, Finland.

- 2006 Coble MD, **Just RS**, Saunier JL, O'Callaghan JE, Letmanyi IH, Peterson CT, Irwin JA, Diegoli TM, Smith BC, Vallone PM, Butler JM, Parsons TJ. *Mitochondrial DNA SNPs in Evolution and Forensic Analysis*. Mitochondrial Molecular Biology and Pathology Workshop, The National Institutes of Health, Bethesda, MD.
- 2005 **Just RS**, Parsons TJ. *mtDNA Genome SNPs for Increased Forensic Discrimination in U.S. Caucasians, African Americans, and Hispanics*. NIJ 6<sup>th</sup> Annual DNA Grantees Workshop, Washington, DC.
- 2004 Coble MD, **Just RS**, Saunier JL, O'Callaghan JE, Letmanyi, I.H., Peterson, C.T., Irwin JA, Vallone PM, Butler, J.M., Parsons TJ. *Identification of SNPs in the Mitochondrial Genome to Resolve Common HVI/HVII types in Caucasian Populations*. Taiwan.
- 2004 **Just RS**, Irwin JA, O'Callaghan JE, Saunier JL, Coble MD, Vallone PM, Butler JM, Parsons TJ. Invited Presentation. *Research Toward Increasing the Utility of mtDNA in Forensic Identifications*. Mediterranean Academy of Forensic Sciences Workshop, Calabria, Italy.
- 2004 Irwin J, **Just R**, O'Callaghan J, Saunier J, Parsons T. *Automated, High-throughput Production of Global mtDNA Population Databases*. Challenges and Changes: 17<sup>th</sup> International Symposium on the Forensic Sciences: The Australian and New Zealand Forensic Science Society Biennial Conference, Wellington, New Zealand.
- 2003 Parsons TJ, Coble MD, **Hamm RS**, O'Callaghan JE, Barritt S, Vallone PM, Butler JM, Brandstaetter A, Niederstätter H, Parson, W. *Forensic SNP Testing in the mtDNA Genome*. Third European Academy of Forensic Science Meeting, Istanbul, Turkey.
- 2003 **Hamm RS**, Coble MD, Vallone PM, O'Callaghan JE, Saunier JL, Letmanyi IH, Peterson CT, Irwin, JA, Butler, JM, Parsons, TJ. *Multiplex SNP Panels for Increased Discrimination in Forensic mtDNA Testing*. European-American School in Forensic Genetics and Mayo Clinic Course in Advanced Molecular and Cellular Medicine, Zagreb, Croatia.
- 2002 Coble MD, **Hamm RS**, Eyster JL, Letmanyi IH, Parsons TJ. *Increasing mtDNA Discrimination for Common Haplotypes: Targeting of Additional Information in the Entire Mitochondrial Genome*. 13<sup>th</sup> Promega Symposium on Human Identification, Phoenix, AZ.
- 2002 Parsons TJ, Coble MD, Letmanyi IH, **Hamm RS**, Niederstätter H, Parson W. *Quick and Easy SNP Assays to Increase the Power of Discrimination of mtDNA Testing*. National Institute of Justice DNA Grantees Workshop, Washington, DC.
- 2002 Parsons TJ, Coble MD, **Hamm RS**, Eyster JL, Letmanyi IH, Niederstätter H, Parson W, Vallone PM. *Multiplex Mito SNPs: How do we really get there, and what do we do with them?* 13<sup>th</sup> Promega Symposium on Human Identification, Phoenix, AZ.
- 2002 Coble MD, Letmanyi IH, **Hamm RS**, Harvey C, Irwin JA, Parsons TJ. *Increasing mtDNA Discrimination for Common Haplotypes: Targeting of Additional Information in the Entire Mitochondrial Genome*. American Chemical Society Mid-Atlantic Regional Meeting, Fairfax, VA.

#### *Poster Presentations*

- 2009 **Just RS**, Motti JMB, Gorden EM, Coble MD, Bravi CM. *Characterization of a Native American mtDNA haplogroup C lineage*. International Society for Forensic Genetics. Buenos Aires, Argentina.

- 2009 Irwin JA, Loreille O, **Just RS**, Parsons TJ. *Characteristics of a modified STR amplification approach for severely degraded skeletal elements*. International Society for Forensic Genetics. Buenos Aires, Argentina.
- 2009 Scheible MK, **Just RS**, Coble MD. *Developmental validation of a commercially available pentaplex miniSTR kit*. American Academy of Forensic Sciences 61<sup>st</sup> Annual Scientific Meeting, Denver, CO.
- 2009 Harris KA, Coble MD, Lehrmann AM, **Just RS**. *Comparison of a commercial mtDNA sequencing kit to standard mtDNA sequencing protocols*. American Academy of Forensic Sciences 61<sup>st</sup> Annual Scientific Meeting, Denver, CO.
- 2007 **Just RS**, Coble MD\*, Leney MD, Barritt SM, Parsons TJ. *The application of mtDNA SNPs to forensic casework*. 18<sup>th</sup> Promega Symposium on Human Identification, Hollywood, CA. (\*presenter)
- 2007 Los CW, Irwin JA, Loreille O, **Just RS**, Edson SM, Raskin-Burns JS, Wadhams MJ, Christensen AJ, Barritt SM, Coble MD, Parsons TJ. *Identification of degraded skeletal remains from the Korean War using a combination of improved DNA typing methods*. 22<sup>nd</sup> Annual Congress of the International Society for Forensic Genetics, Copenhagen, Denmark.
- 2007 **Just RS**, Coble MD\*, Leney MD, Barritt SM, Parsons TJ. *The application of mtDNA SNPs to forensic casework*. 22<sup>nd</sup> Annual Congress of the International Society for Forensic Genetics, Copenhagen, Denmark. (\*presenter)
- 2007 **Just RS**, Coble MD, Leney MD, Barritt SM, Parsons TJ. *The application of mtDNA SNPs to forensic casework*. 2007 MAAFS Annual Meeting, Washington, DC.
- 2006 Irwin JA, Spangler JC\*, Edson SM, Lee DA, **Just RS**, Leney MD, Loreille O, Parsons TJ, Hites R, Barritt SM, Holland TD, Finelli LN. *The intersection of genetic identity: the application of multiple marker systems to establish identity 50 years after death*. 17<sup>th</sup> Promega Symposium on Human Identification, Nashville, TN. (\*presenter)
- 2006 Saunier JL, Sturk KA, Irwin JA, **Just RS**, Diegoli TM, Strouss KM, Parsons TJ. *Integrated robotics and bioinformatics tools for high-throughput databasing of forensic loci*. Lab Automation 2006, Palm Springs, CA.
- 2005 **Just RS**, Los CW, Miller C\*, Leney M, Barritt-Ross SM, Parsons TJ. *Using mitochondrial SNP typing to resolve common HV1/HV2 types in highly degraded samples from a missing persons case*. 16<sup>th</sup> Promega Symposium on Human Identification, Dallas, TX. (\*presenter)
- 2005 Irwin JA, Saunier JL, O'Callaghan JE, **Just RS**, Diegoli TM, Paintner CD, Strouss KM, Sturk KA, Watson KJ, Williams HR, Correll SJ, Ivory WJ, Ferriola D, Norris JC, Ross JP, Nuritdinov AI, Mukhaedov RS, Parson TJ, Ikramov AA. *Entire mtDNA control region databases from Central Asia: Afghanistan, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan*. Fourth European-American School in Forensic Genetics and Mayo Clinic Course in Advanced Molecular and Cellular Medicine, Dubrovnik, Croatia.
- 2004 **Just RS**, Los CW\*, Leney M, Barritt SM, Parsons TJ. *Multiplex mtDNA SNP Typing on Degraded Skeletal Remains*. The 7<sup>th</sup> International Conference on Ancient DNA and Associated Biomolecules, Brisbane, Australia. (\*presenter)
- 2002 **Hamm RS**, Coble MD, Letmanyi IH, Vallone PV, Parsons TJ. *Multiplex Real Time Fluorogenic SNP Assays for Increasing Discrimination for mtDNA Testing*. 13<sup>th</sup> International Symposium on Human Identification, Phoenix, AZ.

## Other Oral Presentations

- 2009 **Just RS**, Coble MD. *Research Overview*. Annual meeting of the Department of Defense Quality Assurance Oversight Committee for DNA Analysis. Armed Forces DNA Identification Laboratory, Rockville, MD.
- 2008 **Just RS**, Loreille O, Coble MD, Sturk K, Parr R. *Titanic's Unknown Child*. Staff Seminar. Armed Forces DNA Identification Laboratory, Rockville, MD.
- 2008 **Just RS**, Lehrmann AM, Harris KE, Coble MD. *Comparison of the mitoSEQr Resequencing sets to standard mtDNA sequencing protocols*. Staff Seminar. Armed Forces DNA Identification Laboratory, Rockville, MD.
- 2008 **Just RS**, Loreille O, Coble MD, Sturk K, Parr R. *Titanic's Unknown Child*. Invited Presentation. Institute for Genetic Engineering and Biotechnology, Sarajevo, Bosnia and Herzegovina.
- 2007 **Just RS**, MJ Wadhams. *mtDNA SNPs: Utility, assay, analysis and application*. International Training Course: Extraction of DNA from Aged Skeletal Remains and Forensic Mitochondrial Sequence Analysis. Armed Forces DNA Identification Laboratory, Rockville, MD.
- 2006 **Just RS**, Loreille O, Coble MD, Irwin JA. *The intersection of genetic identity: the application of new technologies and multiple marker systems to help establish identity 50 years after death*. Professional Staff Conference, Armed Forces Institute of Pathology, Washington, DC.
- 2006 **Just RS**, Diegoli TM, Sturk KA. *NIJ Project: Multiplexed SNP assays to increase discrimination in mtDNA testing*. Staff Seminar. Armed Forces DNA Identification Laboratory, Rockville, MD.
- 2006 **Just RS**. *mtDNA SNPs for increased discrimination*. CIL Scientific Summit. Armed Forces DNA Identification Laboratory, Rockville, MD.
- 2004 **Just RS**, Coble MD, Vallone PM, O'Callaghan JE, Saunier JL, Letmanyi IH, Peterson CT, Irwin, JA, Butler, JM, Parsons, TJ. *Multiplex SNP Panels for Increased Discrimination in Forensic mtDNA Testing*. Staff Seminar. Armed Forces DNA Identification Laboratory, Rockville, MD.
- 2003 **Hamm RS**, Coble MD, O'Callaghan JE, Vallone PV, Parsons TJ. *SNPs in Forensic mtDNA Testing*. Invited Presentation. Hamilton College, Clinton, NY.
- 2003 **Hamm RS**, Coble MD, Letmanyi IH, Vallone PV, Parsons TJ. *Multiplex Fluorogenic Assays for Increasing Discrimination of mtDNA Testing*. Professional Staff Conference, Armed Forces Institute of Pathology, Washington, DC.