

# Tania A. Desrosiers

## *Curriculum Vitae*

Department of Epidemiology  
 Gillings School of Global Public Health  
 University of North Carolina at Chapel Hill  
 Campus Box 7435  
 Chapel Hill, NC 27599  
*tania.desrosiers@unc.edu*

### RESEARCH AREAS

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perinatal and pediatric epidemiology • birth defects • surveillance • periconceptional exposure assessment • occupational exposures during pregnancy • epidemiologic methods • research dissemination and translation

### PROFESSIONAL SKILLS

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research methodology • interdisciplinary collaboration • multi-center study operations • surveillance • proposal development • protocol development • project management • Institutional Review Board procedures • grant reporting • data management • survey design • primary data collection • data linkage • systematic review and meta-analysis • analytic planning and statistical analysis • graduate-level teaching and mentoring • curriculum development • peer review • research communication

### EDUCATION

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University of North Carolina at Chapel Hill, Gillings School of Global Public Health <i>PhD, Epidemiology</i>	Chapel Hill, NC 2011
Tufts University School of Medicine, Graduate Programs in Public Health <i>MPH, Epidemiology/Biostatistics</i>	Boston, MA 2003
Tufts University, School of Arts and Sciences <i>BA, Philosophy; Certificate in Community Health</i>	Medford, MA 2002

### PROFESSIONAL EXPERIENCE

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Department of Epidemiology, Gillings School of Global Public Health University of North Carolina (UNC) at Chapel Hill <i>Associate Professor</i> <i>Assistant Professor</i> <i>Clinical Research Scientist</i>	Chapel Hill, NC 11/2022-current 2016-10/2022 2011-2015
Birth Defects Monitoring Program, North Carolina Division of Public Health <i>Epidemiologist</i>	Raleigh, NC 2008-2011

Department of Epidemiology, UNC Gillings School of Global Public Health  
 Graduate Research Assistant

Chapel Hill, NC  
 2006-2008

Constella Group (acquired by SRA International, Inc.)  
 Independent Consultant

Durham, NC  
 2006-2008

Cambridge Health Alliance, Department of Community Affairs  
 Research and Evaluation Associate

Somerville, MA  
 2003

Framingham Heart Study  
 Research Intern

Framingham, MA  
 2002

## HONORS AND AWARDS

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2007	UNC Chapel Hill Sidney Kark Award for Distinguished Teaching Assistant
2004-2006	Kirschstein National Research Service Award from the National Institute for Environmental Health Sciences (T32ES007018). Predoctoral Traineeship in Environmental & Occupational Epidemiology.
2002-2003	Public Health Traineeship from the US Health Resources and Services Administration.
2003	AMA Foundation Health Literacy Grant for Community Organizations and Alliances (\$2500)
2003	Tufts University Graduate Programs in Public Health "Class of 2003" Achievement Award
2002	Golden Key International Honors Society
2001	Tufts University Gemma Cifarelli Memorial Scholarship Award for Community Service

## PROFESSIONAL MEMBERSHIPS AND CENTER AFFILIATIONS

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2021 –	Member (intermittent), Society for Birth Defects Research and Prevention (formerly Teratology Society)
2018 –	Faculty Affiliate, Center for Environmental Health and Susceptibility (CEHS), UNC Chapel Hill
2005 –	Member (intermittent), Society for Perinatal and Pediatric Epidemiologic Research (SPER)
2005 –	Member (intermittent), Society for Epidemiologic Research (SER)

## PEER-REVIEWED PUBLICATIONS

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\*\* *doctoral student, masters student, or post-doctoral trainee whom I directly mentored*

\* *student-led project on which I collaborated (e.g., as a dissertation committee member)*

† *co-first authors*

1. Blue EE<sup>†</sup>, Moore KJ<sup>†\*</sup>, North KE, **Desrosiers TA**, Carmichael SL, White JJ, Chong JX, Bamshad MJ, Nickerson DA, Jenkins MM, Almlil LL, Brudy L, Freedman S, Reefhuis J, Romitti P, Shaw GM, Werler MM, Kay D, Browne M, Feldkamp M, Finnell R, Nembhard W, Pangilinan F, Olshan AF. Exome sequencing identifies novel genes underlying primary congenital glaucoma in the National Birth Defects Study. *Birth Defects Research* 2024 July; 116(7):e2384. PMID: 38990107
2. Shaw GM, Wei Y, Weber KA, Olshan AF, **Desrosiers TA**. A search for factors associated with reduced carbohydrate intake and NTD risk in two population-based studies. *Birth Defects Research* 2024 Mar; 116(3):e2328. PMID: 38450884

3. Evenson KR, Mowla S\*\*, Olshan AF, Shaw GM, Aisles EC, Reefhuis R, Joshi N, **Desrosiers TA**. Maternal physical activity, sitting time, and risk of non-cardiac birth defects. *Pediatric Research* 2024 Jan; 95(1):334-341. PMID: 37543708.
4. Wong EC\*, Lupo PJ, **Desrosiers TA**, Nichols HB, Smith SM, Poole C, Olshan AF. Associations between birth defects with neural crest cell developmental origins and pediatric embryonal tumors. *Cancer* 2023 Nov; 129(22):3595-3602. PMID: 37432072.
5. Krajewski AK, Patel A, Gray CL, Messer LC, Keeler CY, Langlois PH, Reefhuis J, Gilboa SM, Werler MM, Shaw GM, Carmichael SM, Nembhard WN, Insaf TZ, Feldkamp ML, Conway KM, Lobdell DT, **Desrosiers TA**. Is gastroschisis associated with county-level socio-environmental quality during pregnancy? *Birth Defects Research* 2023 Nov; 115(18):1758-1769. PMID: 37772934.
6. Schraw JM, Sok P, **Desrosiers TA**, Janitz AE, Langlois PH, Canfield MA, Frazier AL, Plon SE, Lupo PL, Poynter JN. Associations between birth defects and childhood and adolescent germ cell tumors according to sex, histologic subtype, and site. *Cancer* 2023 Oct 15; 129(20):3300-3308. PMID: 37366624.
7. Van Buren KW\*, Rocheleau CM, Chen IC, **Desrosiers TA**, Sanderson W, Politis M, Ailes E. Maternal occupational exposure to selected organic and chlorinated solvents and delivery of small-for-gestational age or preterm infants. *American Journal of Industrial Medicine* 2023 Oct; 66(10):842-853. PMID: 37463847.
8. Petersen JM, Smith-Webb RS, Shaw GM, Carmichael SL, **Desrosiers TA**, Nestoridi E, Darling AM, Parker SE, Politis MD, Yazdy MM, Werler MM. Periconceptional intakes of methyl donors and other micronutrients involved in one-carbon metabolism may further reduce risk of neural tube defects in offspring: A United States population-based case-control study of women meeting the folic acid recommendations. *American Journal of Clinical Nutrition* 2023 Sept; 118(3):720-728. PMID: 37661108.
9. Neo DT\*, Martin CL, Carmichael SL, Calikoglu MG, Evans S, Feldkamp ML, Werler MM, Shaw GM, Shumate C, Nembhard WN, Insaf TA, Wisniewski KW, Olshan AF, **Desrosiers TA**. Are individual risk factors for gastroschisis modified by neighborhood-level socioeconomic factors? *Birth Defects Research* 2023 Sept; 115(15):1438-1449. PMID: 37439400.
10. Carmichael SL, Yang W, Ma C, **Desrosiers TA**, Weber K, Collins RT, Nestoridi E, Shaw GM. Oxidative balance scores and neural crest cell-related congenital anomalies. *Birth Defects Research* 2023 July; 115(12):1151-1162. PMID: 37309307.
11. Neo DT\*, **Desrosiers TA**, Martin CL, Carmichael SL, Calikoglu MG, Evans S, Feldkamp ML, Werler MM, Shaw GM, Shumate C, Nembhard WN, Insaf TA, Wisniewski KW, Olshan AF. Neighborhood-level socioeconomic position during early pregnancy and risk of gastroschisis. *Epidemiology* 2023 July; 34(4):576-588. PMID: 36976718
12. Keeler C\*\*, Luben TJ, Forestieri N, Olshan AF, **Desrosiers TA**. Is residential proximity to polluted sites during pregnancy associated with preterm birth or low birth weight? Results from an integrated exposure database in North Carolina (2003-2015). *Journal of Exposure Science and Environmental Epidemiology* 2023 March; 33(2):229-236. PMID: 36100666.
13. Weber KA, Yang W, Carmichael SL, Collins RT, Luben TJ, **Desrosiers TA**, Insaf TA, Le MT, Evans SP, Romitti PA, Yazdy MM, Nembhard WN, Shaw GM. Assessing associations between residential proximity to greenspace and birth defects in the National Birth Defects Prevention Study. *Environmental Research* 2023 Jan; 216(Pt 3):114760. PMID: 36356662.

14. Fisher M, Howley MM, Romitti PA, **Desrosiers TA**, Jabs EW, Browne ML. Maternal periconceptional alcohol consumption and gastroschisis. *Pediatric and Perinatal Epidemiology* 2022 November; 36(6):782-791. PMID: 35437856.
15. Zaganjor I\*, Keil AP, Luben TJ, **Desrosiers TA**, Engel LS, Michalski A, Carmichael SL, Nembhard SL, Shaw G, Reefhuis J, Yazdy MM, Langlois PH, Feldkamp ML, Romitti PA, Olshan AF. Is maternal employment site a source of exposure misclassification in studies of environmental exposures and birth outcomes? A simulation-based bias analysis of haloacetic acids in tap water and hypospadias. *Environmental Epidemiology* 2022 March; 6(2):207. PMID: 35434460.
16. Wong EC\*\*, Fisher SC, Feldkamp ML, Romitti PA, Nestoridi E, **Desrosiers TA**. Factors associated with maternal consent for use of residual newborn bloodspots in the National Birth Defects Prevention Study. *Birth Defects Research* 2022 April; 114(7):238-248. PMID: 35194969.
17. Simmons W\*, Lin S, Luben TJ, Sheridan SC, Langlois PH, Shaw GM, Reefhuis J, Romitti PA, Feldkamp ML, Nembhard WN, **Desrosiers TA**, Browne ML, Stingone JA. Modeling complex effects of exposure to fine particulate matter and extreme heat during pregnancy on congenital heart defects. *Science of the Total Environment* 2022 Feb; 808:152150. PMID: 34864029.
18. Zaganjor I\*, Luben TJ, **Desrosiers TA**, Keil AP, Engel LS, Michalski A, Carmichael SL, Nembhard SL, Shaw G, Reefhuis J, Yazdy MM, Langlois PH, Feldkamp ML, Romitti PA, Olshan AF. Maternal exposure to disinfection by-products and risk of hypospadias. *International Journal of Environmental Research and Public Health* 2020 Dec; 17(24):9564. PMID: 33371304.
19. Heinke D, Rich-Edwards JW, Williams PL, Hernandez-Diaz S, Anderka M, Fisher SC, **Desrosiers TA**, Shaw GM, Romitti PA, Canfield M, Yazdy MM. Quantification of selection bias in studies of risk factors for birth defects among live births. *Perinatal and Pediatric Epidemiology* 2020 Nov; 34(6):655-664. PMID: 32249969. **#TopCitedArticle 2020-2021 (Wiley's rankings for journal's top cited articles January 2020-December 2021)**
20. Hansen C, **Desrosiers TA**, Wisniewski K, Strickland MJ, Werler MM, Gilboa SM. Use of antihistamine medications during early pregnancy and selected birth defects: The National Birth Defects Prevention Study, 1997-2011. *Birth Defects Research* 2020 Oct; 112(16):1234-1252. PMID: 32657014
21. Schraw JM, **Desrosiers TA**, Nembhard WN, Alverson G, Langlois PH, Meyer RE, Canfield MA, Rasmussen SA, Chambers TM, Spector LG, Plon SE, Lupo PJ. Cancer diagnostic profile in children with structural birth defects: An assessment in 15,000 childhood cancer cases. *Cancer* 2020 Aug; 126(15): 3483-3492. PMID: 32469081.
22. Zaganjor I\*\*, Carmichael SL, Agopian AJ, Olshan AF, **Desrosiers TA**. Differences in pre-pregnancy diet quality by occupation among employed women. *Public Health Nutrition* 2020 Aug; 23(11):1974-1981. PMID: 32100672
23. Patel J, Nembhard WN, Politis MD, Rocheleau CM, Langlois PH, Shaw GM, Romitti PA, Gilboa SM, **Desrosiers TA**, Insaf T, Lupo PJ. Maternal occupational exposure to polycyclic aromatic hydrocarbons and the risk of isolated congenital heart defects among offspring. *Environmental Research* 2020 Jul; 186:109550. PMID: 32335433.
24. Marcotte EL, Schraw JM, **Desrosiers TA**, Nembhard WN, Langlois PH, Canfield MA, Meyer RE, Plon SE, Lupo PJ. Male sex and the risk of childhood cancer: the mediating effect of birth defects. *JNCI Cancer Spectrum* 2020 Jun; 4(5):pkaa052. PMID: 33134832
25. Moore KJ\*, Carmichael SL, Forestieri NE, **Desrosiers TA**, Meyer RE, Freedman SF, North KE, Olshan AF. Maternal diet as a risk factor for primary congenital glaucoma and defects of the anterior segment of the eye in the National Birth Defects Prevention Study. *Birth Defects Research* 2020 Apr; 112(6):503-514. PMID: 32154673

26. Spinder N\*, Almli LM, **Desrosiers TA**, Arnold KE, Bergman JEH, Kromhout H, Boezen HM, de Walle HEK, Rocheleau CM, Reefhuis J. Maternal occupational exposure to solvents and gastroschisis in offspring, National Birth Defects Prevention Study, 1997-2011. *Occupational and Environmental Medicine* 2020 Mar; 77(3):172-178. PMID: 31949041.
27. Choi G\*, Stingone JA, **Desrosiers TA**, Olshan AF, Nembhard WN, Shaw GM, Pruitt S, Romitti PA, Yazdy MM, Browne ML, Langlois PH, Botto L, Luben TJ. Maternal exposure to outdoor air pollution and congenital limb deficiencies in the National Birth Defects Prevention Study. *Environmental Research* 2019 Dec; 179(Pt A):108716. PMID: 31546130.
28. Alman B, Stingone JA, Yazdy M, Botto L, **Desrosiers TA**, Pruitt S, Herring AH, Langlois PG, Nembhard WN, Shaw GM, Olshan AF, Luben TJ. Associations between PM<sub>2.5</sub> and risk of preterm birth. *Annals of Epidemiology* 2019 Nov; 39:46-53. PMID: 31678056.
29. Pace ND\*, Siega-Riz AM, Olshan AF, Chescheir NC, Cole SR, **Desrosiers TA**, Tinker SC, Hoyt AT, Canfield MA, Carmichael SL, Meyer RE. Survival of infants with spina bifida and the role of maternal pre-pregnancy body mass index. *Birth Defects Research* 2019 Oct; 111(16):1205-121. PMID: 31322328.
30. Forestieri NE, **Desrosiers TA**, Freedman SF, Aylsworth AS, Voltzke K, Olshan AF, Meyer RE. Risk factors for primary congenital glaucoma in the National Birth Defects Prevention Study. *American Journal of Medical Genetics* 2019 Sep; 179(9):1846-1856. PMID: 31313509.
31. Lupo PJ<sup>†</sup>, Schraw JM<sup>†</sup>, **Desrosiers TA**, Nembhard WN, Langlois PH, Canfield MA, Copeland G, Meyer RE, Brown AB, Chambers TM, Danysh HE, Carozza SE, Sisoudiya SD, Hilsenbeck SG, Janitz AE, Oster M, Scheurle AE, Schiffman JD, Luo C, Mian A, Mueller BA, Huff CD, Rasmussen SA, Scheurer ME, Plon SE. Cancer Risk among Children and Adolescents with Birth Defects: A Population-Based Assessment in 10 Million Live Births. *JAMA Oncology* 2019 Jun; 5(8):1150-8. PMID: 31219523.
32. Ryan MA\*, Olshan AF, Canfield MA, Hoyt AT, Scheurle AE, Carmichael SL, Shaw GM, Werler MM, Fisher SC, **Desrosiers TA**. Sociodemographic, health behavioral, and clinical risk factors for anotia/microtia in a population-based case-control study. *International Journal of Pediatric Otorhinolaryngology* 2019 Mar; 122:18-26. PMID: 30928866.
33. Austin AE\*\*, **Desrosiers TE**, Shanahan ME. Directed acyclic graphs: An under-utilized tool for child maltreatment research. *Child Abuse and Neglect* 2019 Mar; 91:78-87. PMID: 30836237.
34. Chawla D\*, Yang CY, **Desrosiers TA**, Westreich DJ, Olshan AF, Daniels JL. Past-month cannabis use among U.S. individuals from 2002-2015: An age-period-cohort analysis. *Drug and Alcohol Dependence* 2018 Dec; 193:177-182. PMID: 30384326.
35. **Desrosiers TA**, Siega-Riz AM, Mosley BS, Meyer RE. Low carbohydrate diets may increase risk of neural tube defects. *Birth Defects Research* 2018 Jul; 110(11):901-909. PMID: 29368448. **[Press Released] #Top20Article (Wiley rankings for journal's top 20 most downloaded paper in the 12 months post online publication for the period July 2016-June 2018) #TopCitedArticle 2018-2019 (Wiley's rankings for journal's top cited articles January 2018-December 2019)**
36. Pace ND\*, **Desrosiers TA**, Carmichael SL, Shaw GM, Olshan AF, Siega-Riz AM. Antioxidant consumption is associated with decreased odds of congenital limb deficiencies. *Pediatric and Perinatal Epidemiology* 2018 Jan; 32(1):90-99. PMID: 28869773.

37. Rocheleau CM, Bertke S, Lawson CC, Romitti PA, **Desrosiers TA**, Agopian AJ, Bell E, Gilboa SM. Factors associated with employment status before and during pregnancy: implications for studies of pregnancy outcomes. *American Journal of Industrial Medicine* 2017 Apr; 60(4):329-341. PMID: 282998210.
38. Rocheleau CM, Bertke SJ, Lawson CC, Romitti PA, Sanderson WT, Malik S, Lupo PJ, **Desrosiers TA**, Bell E, Druschel C, Correa A, Reefhuis J. Maternal occupational pesticide exposure and risk of congenital heart defects in the National Birth Defects Prevention Study. *Birth Defects Res A Clin Mol Teratol* 2015 Oct; 103(10):823-33. PMID: 26033688.
39. **Desrosiers TA**, Lawson CC, Meyer RE, Stewart PA, Waters MA, Correa A, Olshan AF. Assessed occupational exposure to chlorinated, aromatic, and Stoddard solvents during pregnancy and risk of fetal growth restriction. *Occupational and Environmental Medicine* 2015 Aug; 72(8):587-93. PMID: 26076683.
40. Sanders AP\*, **Desrosiers TA**, Warren JL, Herring AH, Enright D, Olshan AF, Meyer RE, Fry RC. Association between arsenic, cadmium, manganese, and lead levels in private wells and birth defects prevalence in North Carolina: A semi-ecologic study. *BMC Public Health* 2014 Sept; 14:955. PMID: 25224535. **[Press Released]**
41. Langlois PH, Hoyt AT, **Desrosiers TA**, Lupo PL, Lawson CC, Waters MA, Shaw GM, Romitti PA, Gilboa SM, Malik S. Maternal occupational exposure to polycyclic aromatic hydrocarbons and small for gestational age offspring. *Occupational and Environmental Medicine* 2014 Aug; 71(8):529-35. PMID:24893704.
42. Langlois PH, Hoyt AT, Lupo PJ, Lawson CC, Waters MA, **Desrosiers TA**, Shaw GM, Romitti PA, Lammer EJ. Maternal occupational exposure to polycyclic aromatic hydrocarbons and risk of oral cleft-affected pregnancies. *Cleft Palate and Craniofacial Journal* 2013 May; 50(3):337-46. PMID: 23136939.
43. Lupo PJ, Symanski E, Langlois PH, Lawson CC, Malik S, Gilboa SM, Lee LL, Agopian AJ, **Desrosiers TA**, Romitti PA, Correa A, Shaw GM, Mitchell LE. Maternal occupational exposure to polycyclic aromatic hydrocarbons and congenital heart defects among offspring in the National Birth Defects Prevention Study. *Birth Defects Res A Clin Mol Teratol* 2012 Nov; 94(11):875-81. PMID: 22945317.
44. Gilboa SM, **Desrosiers TA**, Lawson CC, Lupo PJ, Riehle-Colarusso T, Stewart PA, van Wijngaarden E, Waters MA, Correa A. Association between maternal occupational exposure to organic solvents and congenital heart defects, National Birth Defects Prevention Study, 1997-2002. *Occupational and Environmental Medicine* 2012 Sep; 69(9):628-35. PMID: 22811060. **[Press Released]**
45. Langlois PH, Hoyt AT, Lupo PJ, Lawson CC, Waters MA, **Desrosiers TA**, Shaw GM, Romitti PA, Lammer EJ. Maternal occupational exposure to polycyclic aromatic hydrocarbons and risk of neural tube defect-affected pregnancies. *Birth Defects Res A Clin Mol Teratol* 2012 Sep; 94(9):693-700. PMID: 22807044
46. **Desrosiers TA**, Herring AH, Shapira SK, Hooiveld M, Luben TJ, Herdt-Losavio ML, Lin S, Olshan AF. Paternal occupation and birth defects: Findings from the National Birth Defects Prevention Study. *Occupational and Environmental Medicine* 2012 Aug; 69(8):534-42. PMID: 22782864. **[Press Released]**
47. **Desrosiers TA**, Lawson CC, Meyer RE, Richardson DB, Daniels JL, Waters MA, van Wijngaarden E, Langlois PH, Romitti PA, Correa A, Olshan AF. Maternal occupational exposure to organic solvents during early pregnancy and risks of neural tube defects and orofacial clefts. *Occupational and Environmental Medicine* 2012 Jul; 69(7):493-9. PMID: 22447643; PMCID: PMC3719396.
48. Lupo PJ, Langlois PH, Reefhuis J, Lawson CC, Symanski E, **Desrosiers TA**, Khodr ZG, Agopian AJ, Waters MA, Duwe KN, Finnell RH, Mitchell LE, Moore CA, Romitti PH, Shaw GM. Maternal occupational exposure to polycyclic

aromatic hydrocarbons and gastroschisis among offspring in the National Birth Defects Prevention Study. *Environmental Health Perspectives* 2012 Jun; 120(6):910-5. PMID: 22330681; PMCID: PMC3385431.

49. **Desrosiers TA** and Meyer RE. Utilization of dental health care services among pregnant women in North Carolina. *North Carolina Medical Journal* 2012 Mar-Apr; 73(2):136-9. PMID: 22860328.

#### Other Publications

1. National Toxicology Program (NTP). 2011. Formaldehyde. Pp. 195-205 in Report on Carcinogens, 12<sup>th</sup> Ed. U.S. Department of Health and Human Services, Public Health Service, National Toxicology Program, Research Triangle Park, NC. [Contributing Author] Available online: <http://ntp.niehs.nih.gov/ntp/roc/twelfth/profiles/formaldehyde.pdf>

#### Manuscripts Accepted/In press

1. Forestieri NE, Olshan AF, Oster ME, Ailes EC, Fundora MP, Fisher SC, Schumate C, Romitti PA, Liberman RF, Nembhard WN, Carmichael SL, **Desrosiers TA**. Survival of children with critical congenital heart defects in the National Birth Defects Prevention Study. *Accepted – Birth Defects Research*.
2. Lanning R, Emily L, Eaves L, **Desrosiers TA**. Preparing birth doulas for serving in a hospital-based volunteer doula program: training, evaluation, and community impact. *Accepted – Journal of Midwifery and Women's Health*.

#### **SELECTED REFEREED ABSTRACTS AND UNPUBLISHED PRESENTATIONS**

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Forestieri NE, Olshan AF, Oster ME, Ailes E, Fundora M, Fisher S, Schumate C, Romitti P, Liberman R, Nembhard W, Carmichael SL, **Desrosiers TA**. Survival of children with critical congenital heart defects in the National Birth Defects Prevention Study. 26<sup>th</sup> Annual Meeting of the National Birth Defects Prevention Network (NBDPN). Atlanta, GA. August 14-17, 2023. (Poster)

Sley EG\*, **Desrosiers TA**, Agopian AJ, Carmichael SL, Maselko J, Stores-Alvarez D, Wood ME, Ailes EC, Canfield MA, Le MT, Olshan AF. Risk factors for orofacial clefts among Hispanic individuals in the United States. 56<sup>th</sup> Annual Meeting of the Society for Epidemiologic Research (SER). Portland, OR. June 13-16, 2023. (Poster)

Sley EG\*, **Desrosiers TA**, Agopian AJ, Carmichael SL, Maselko J, Stores-Alvarez D, Wood ME, Ailes EC, Canfield MA, Le MT, Olshan AF. Proportion of orofacial clefts attributable to known risk factors differs for Hispanic and non-Hispanic white individuals. 56<sup>th</sup> Annual Meeting of the Society for Epidemiologic Research (SER). Portland, OR. June 13-16, 2023. (Poster)

Mowla SJ\*<sup>†</sup>, Williams LA<sup>†</sup>, **Desrosiers TA**, Stores-Alvarez D, Williford EM, Agopian AJ, Archer N, Browne ML, Fisher S, Shaw GM, Olshan AF. Parental characteristics associated with orofacial clefts by sex: A latent class analysis approach. 36<sup>th</sup> Annual Meeting of the Society for Pediatric and Perinatal Epidemiologic Research (SPER). Portland, OR. June 12-13, 2023. (Poster)

Wong EC\*, Lupo PJ, **Desrosiers TA**, Nichols HB, Smith SM, Poole C, Olshan AF. Associations between birth defects with neural crest cell developmental origins and pediatric embryonal tumors. 36<sup>th</sup> Annual Meeting of the Society for Pediatric and Perinatal Epidemiologic Research (SPER). Portland, OR. June 12-13, 2023. (Poster)

Wong EC\*, Poole C, **Desrosiers TA**, Sley E, Lupo PJ, Nichols HB, Smith SM, Olshan AF. Non-chromosomal birth defects and childhood cancer: a systematic review with meta-analysis. 36<sup>th</sup> Annual Meeting of the Society for Pediatric and Perinatal Epidemiologic Research (SPER). Portland, OR. June 12-13, 2023. (Poster)

Keeler C\*\*, Luben TJ, Forestieri N, Olshan AF, **Desrosiers TA**. Associations between maternal residential proximity to hazardous waste sites and adverse birth outcomes in North Carolina. Annual Meeting of the International Society for Environmental Epidemiology (ISEE). Virtual meeting. August 2021. (Poster)

Krajewski AK, Patel A, Gray CL, Messer LC, Langlois PH, Reefhuis, Gilboa SM, Werler MM, Shaw GM, Carmichael S, Nembhard W, Insaf TZ, Feldkamp ML, Lobdell T, **Desrosiers TA**. County-level environmental quality and gastroschisis in the National Birth Defects Prevention Study. 34<sup>th</sup> Annual Meeting of the Society for Pediatric and Perinatal Epidemiologic Research (SPER). Virtual meeting. June 2021. (Speed talk)

**Desrosiers TA** (invited moderator). Speed Talks in Birth Defects Research. Society for Pediatric and Perinatal Epidemiologic Research (SPER). May 26<sup>th</sup>, 2021.

**Desrosiers TA**, Richardson D, Schubauer-Berigan M (panelists). Managing public response to our research. Environmental and Occupational Epidemiology Seminar Series, Gillings School of Global Public Health, UNC Chapel Hill. April 19, 2021. (Invited seminar panelist)

**Desrosiers TA**. Feasibility of using shed deciduous teeth to assess the fetal exposome: A research partnership with the Tooth Fairy. Reproductive and Perinatal Epidemiology Seminar Series, Gillings School of Global Public Health, UNC Chapel Hill. March 2, 2021 (Invited seminar presentation)

**Desrosiers TA**, Graves N, Gray K. Parents' perspectives on using children's shed deciduous teeth for environmental health research. 53<sup>rd</sup> Annual Meeting of the Society for Epidemiologic Research (SER). Virtual meeting due to COVID-19. December 16-18, 2020. (Poster)

**Desrosiers TA**, Graves N, Gray K. Parents' perspectives on using children's shed deciduous teeth for environmental health research. 33<sup>rd</sup> Annual Meeting of the Society for Pediatric and Perinatal Epidemiologic Research (SPER). Virtual meeting due to COVID-19. December 15, 2020. (Abstract)

Wong EC\*\*, Olshan AF, **Desrosiers TA**. Residual Newborn Blood Spots for Epidemiologic Studies of Birth Defects. 33<sup>rd</sup> Annual Meeting of the Society for Pediatric and Perinatal Epidemiologic Research (SPER). Virtual meeting due to COVID-19. December 15, 2020. (Presentation)

**Desrosiers TA**, Graves N, Gray K. Parents' perspectives on using children's shed deciduous teeth for health research. 23<sup>rd</sup> Annual Meeting of the National Birth Defects Prevention Network (NBDPN). Arlington, VA. March 8-11, 2020. (Abstract)

Wong EC\*\*, Olshan AF, **Desrosiers TA**. Residual Newborn Blood Spots for Epidemiologic Studies of Birth Defects: Participation and Research Implications. 23<sup>rd</sup> Annual Meeting of the National Birth Defects Prevention Network (NBDPN). Arlington, VA. March 8-11, 2020. (Abstract)

Forestieri NE, **Desrosiers TA (presenter)**, Freedman S, Aylsworth K, Voltzke K, Olshan AF, Meyer RE. Risk factors for congenital glaucoma and anterior chamber defects. 31<sup>st</sup> Annual Meeting of the Society for Pediatric and Perinatal Epidemiologic Research (SPER). Baltimore, MD. June 18-19, 2018. (Poster)

Drover SSM\*\*, **Desrosiers TA (presenter)**, Werler MM, Mitchell AA, Browne ML, Aylsworth AS, Meyer RE. Lithium use during pregnancy and birth defects. 21<sup>st</sup> Annual Meeting of the National Birth Defects Prevention Network (NBDPN). Atlanta, GA. March 12-14, 2018. (Poster)



**Desrosiers TA**, Schisterman EF, Ye A, Olshan AF, Shaw GM. A sensitivity analysis to assess bias due to left-truncation in epidemiologic investigations of suspected teratogens. 50<sup>th</sup> Annual Meeting of the Society for Epidemiologic Research (SER). Seattle, WA. June 20-23, 2017. (Poster)

**Desrosiers TA**, Chawla D\*, Drover SMS\*, Lupo PL, Olshan AF. Risk of childhood cancers among children born with non-chromosomal major structural birth defects: A systematic review and meta-analysis. 50<sup>th</sup> Annual Meeting of the Society for Epidemiologic Research (SER). Seattle, WA. June 20-23, 2017. (Abstract)

**Desrosiers TA**, Chawla D\*, Drover SMS\*, Lupo PL, Olshan AF. Risk of childhood cancers among children born with non-chromosomal major structural birth defects: A systematic review and meta-analysis. 30<sup>th</sup> Annual Meeting of the Society for Pediatric and Perinatal Epidemiologic Research (SPER). Seattle, WA. June 19-20, 2017. (Invited plenary session presentation)

**Desrosiers TA**, Schisterman EF, Ye A, Olshan AF, Shaw GM. A sensitivity analysis to assess bias due to left-truncation in epidemiologic investigations of suspected teratogens. 30<sup>th</sup> Annual Meeting of the Society for Pediatric and Perinatal Epidemiologic Research (SPER). Seattle, WA. June 19-20, 2017. (Poster)

**Desrosiers TA**, Siega-Riz AM, Mosely BS, Hobbs CA, Meyer RE. Low Carb Diets: Are they counter to the success of folic acid fortification in the United States? 49<sup>th</sup> Annual Meeting of the Society for Epidemiologic Research (SER). Miami, FL. June 21-24, 2016. (Poster)

**Desrosiers TA**, Siega-Riz AM, Mosely BS, Hobbs CA, Meyer RE. Low Carb Diets: Are they counter to the success of folic acid fortification in the United States? 29<sup>th</sup> Annual Meeting of the Society for Pediatric and Perinatal Epidemiologic Research (SPER). Miami, FL. June 20-21, 2016. (Invited plenary session presentation)

**Desrosiers TA**. Do low carb diets increase the risk of NTDs? 18<sup>th</sup> Annual Meeting of the National Birth Defects Prevention Network (NBDPN). Arlington, VA. October 19-21, 2015. (Invited plenary session presentation)

Pace ND\*, Siega-Riz AM, Carmichael SL, Shaw GM, **Desrosiers TA (presenter)**, Olshan AF. Antioxidant consumption is associated with decreased odds of congenital limb deficiencies. 18<sup>th</sup> Annual Meeting of the National Birth Defects Prevention Network (NBDPN). Arlington, VA. October 19-21, 2015. (Poster)

**Desrosiers TA**, Lawson CC, Meyer RE, Stewart PA, Waters MA, Correa A, Olshan AF. Assessed maternal occupational exposure to chlorinated, aromatic and Stoddard solvents during pregnancy and risk of fetal growth restriction in offspring. 48<sup>th</sup> Annual Meeting of the Society for Epidemiologic Research (SER). Denver, CO. June 16-19, 2015. (Poster)

**Desrosiers TA**, Lawson CC, Meyer RE, Stewart PA, Waters MA, Correa A, Olshan AF. Assessed maternal occupational exposure to chlorinated, aromatic and Stoddard solvents during pregnancy and risk of fetal growth restriction in offspring. 28<sup>th</sup> Annual Meeting of the Society for Pediatric and Perinatal Epidemiologic Research (SPER). Denver, CO. June 15-16, 2015. (Poster)

**Desrosiers TA**, Lawson CC, Meyer RE, Richardson DB, Daniels JL, Waters MA, van Wijngaarden E, Langlois PH, Romitti PA, Correa A, Olshan AF. Maternal occupational exposure to organic solvents during early pregnancy and selected congenital anomalies. 15<sup>th</sup> Annual Meeting of the National Birth Defects Prevention Network (NBDPN). Arlington, VA. February 27-29, 2012. (Poster)

**Desrosiers TA**, Lawson CC, Meyer RE, Richardson DB, Daniels JL, Waters MA, van Wijngaarden E, Langlois PH, Romitti PA, Correa A, Olshan AF. Maternal occupational exposure to organic solvents during early pregnancy and selected congenital

anomalies. UNC-CH Center for Environmental Health and Susceptibility. Symposium on Interdisciplinary Environmental Health Research. Chapel Hill, NC. November 14, 2011. (Poster)

**Desrosiers TA**, Lawson CC, Meyer RE, Richardson DB, Daniels JL, Waters MA, van Wijngaarden E, Langlois PH, Romitti PA, Correa A, Olshan AF. Maternal occupational exposure to organic solvents during early pregnancy and selected congenital anomalies. 3<sup>rd</sup> North American Congress of Epidemiology and 44<sup>th</sup> Annual Meeting of the Society for Epidemiologic Research (SER). Montreal, Canada. June 21-24, 2011. (Poster)

**Desrosiers TA**, Lawson CC, Meyer RE, Richardson DB, Daniels JL, Waters MA, van Wijngaarden E, Langlois PH, Romitti PA, Correa A, Olshan AF. Maternal occupational exposure to organic solvents during early pregnancy and selected congenital anomalies. 24<sup>th</sup> Annual Meeting of the Society for Pediatric and Perinatal Epidemiologic Research (SPER). Montreal, Canada. June 21-22, 2011. (Poster)

**Desrosiers TA**, Lawson CC, Meyer RE, Richardson DB, Daniels JL, Waters MA, van Wijngaarden E, Langlois PH, Romitti PA, Correa A, Olshan AF. Maternal occupational exposure to organic solvents during early pregnancy and selected congenital anomalies. 10<sup>th</sup> Annual "Poster Day" of the North Carolina Division of Public Health Epidemiology & Evaluation Team. Raleigh, NC. May 13, 2011. (Poster)

**Desrosiers TA**. Paternal occupation and birth defects: findings from the National Birth Defects Prevention Study. Annual Meeting of the Centers for Birth Defects Research and Prevention. Atlanta, GA. January 26, 2010. (Presentation)

**Desrosiers TA**. Assessing the relation between solvents and birth defects: analytic strategies and challenges. National Institute for Occupational Safety and Health (NIOSH). August 19, 2008. Cincinnati, OH. (Invited talk)

**Desrosiers TA**, Maygarden SJ, Wang L, Yankaskas BC. Comparison of pathologic features of screen-detected and interval breast cancers in African American and white women in the Carolina Mammography Registry. 7<sup>th</sup> Annual Women's Health Research Day. Center for Women's Health Research at the University of North Carolina. Chapel Hill, NC. June 5, 2006. (Poster)

## TEACHING EXPERIENCE

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### Lead Instructor

Gillings School of Global Public Health, University of North Carolina, Chapel Hill, NC  
Departments of Epidemiology and Maternal & Child Health

*Lead Instructor, EPID/MCH 851 Reproductive and Perinatal Epidemiology (graduate)* Fall 2017; 2023; 2024

Universidad Nacional Autónoma de Nicaragua (UNAN) León, Nicaragua  
Departamento de Microbiología y Parasitología, Facultad de Ciencias Médicas

*Lead Instructor, Epidemiologic Methods for Biomedical Sciences Research (graduate)* September 2019

Tufts University, School of Arts and Sciences, Medford, MA  
Department of Civil & Environmental Engineering

*Co-Instructor, Fundamentals of Epidemiology (undergraduate)* Spring 2002; Spring 2003

### Lecturer

Gillings School of Global Public Health, University of North Carolina, Chapel Hill, NC  
*EPID/MCH 851 Reproductive and Perinatal Epidemiology (graduate)*

2010-2022

<i>EPID 853 Advanced Topics in Reproductive and Perinatal Epidemiology (graduate)</i>	2016, 2020
<i>PATH 726 Human Environmental Disease (graduate)</i>	2010-2015

Teaching Assistant

Gillings School of Global Public Health, University of North Carolina, Chapel Hill, NC  
Department of Epidemiology

<i>EPID 715/16 Theory and Quantitative Methods in Epidemiology (graduate)</i>	Spring 2007
<i>EPID 600 Principles of Epidemiology for Public Health (graduate)</i>	Fall 2006

Tufts University, School of Medicine, Boston, MA

Department of Epidemiology and Biostatistics

<i>Principles of Epidemiology (graduate)</i>	Summer 2002; Fall 2002; Summer 2004
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Tufts University, School of Arts and Sciences, Medford, MA

Department of Community Health

<i>Introduction to Community Health (undergraduate)</i>	Fall 2002
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**GRADUATE STUDENT ADVISING/TRAINING**

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Training Grant Involvement

- 2020- NIH/NIEHS T32: Biostatistics for Research in Environmental Health  
Departments of Epidemiology, Biostatistics, and Environmental Sciences & Engineering, UNC Gillings School of Global Public Health (co-Directors, S. Engel, H. Zhou, and R. Fry)  
*Role: Training Faculty*
- 2018- NIH/NICHD T32: Training Program in Reproductive, Perinatal, and Pediatric Epidemiology  
Department of Epidemiology, UNC Gillings School of Global Public Health (Director, J. Daniels)  
*Role: Training Faculty*
- 2018- NIH/Fogarty D43: Nicaraguan Emerging and Endemic Diseases (NEED) Research Training Program  
UNC Global Infectious Disease Institute (co-Directors, S. Becker-Dreps and S. Meshnick)  
*Role: Training Faculty (with 5% FTE)*

Doctoral Student Academic Advisor/Dissertation Chair

- Sanjida Mowla, PhD in Epidemiology at UNC Chapel Hill (anticipated 2025). *Maternal neighborhood-level socioeconomic position, exposure to air pollution, and risk of stillbirth and early childhood survival among those with critical congenital heart defects.*
- Kaitlyn Long, PhD in Epidemiology at UNC Chapel Hill

Doctoral Dissertation Committee Membership

- Deanna Caruso, PhD in Epidemiology at UNC Chapel Hill (anticipated May 2025). *Differences in sleep problems and autistic traits in children and adolescents with autism spectrum disorder, developmental delays, and the general population.*

2. Oluwasolape (Sola) Olawore, PhD in Epidemiology at UNC Chapel Hill (anticipated May 2025). *Risk and benefit of antenatal corticosteroid for late preterm birth in pregnant people with pregestational diabetes.*
3. Lauren Spigel, PhD in Maternal and Child Health at UNC Chapel Hill (anticipated May 2025). *Association of person-centered care with clinical intervention and patient-reported outcomes during labor and delivery.*
4. Erin Sley, PhD in Epidemiology at UNC Chapel Hill; December 2023. *Modifiable risk factors for orofacial clefts among Hispanic and non-Hispanic individuals in the United States.*
5. Dayna Neo, PhD in Epidemiology at UNC Chapel Hill; August 2022. *Neighborhood-level socioeconomic position during early pregnancy and risk of gastroschisis.*
6. Ibrahim Zaganjor, PhD in Epidemiology at UNC Chapel Hill; December 2020. *Maternal Exposure to Disinfection By-Products and Risk of Hypospadias.*
7. Kristin (Voltzke) Moore, PhD in Epidemiology at UNC Chapel Hill; May 2019. *Maternal Dietary Factors and Whole-Exome Sequencing of Primary Congenital Glaucoma and Anterior Segment Defects of the Eye.*
8. Devika Chawla, PhD in Epidemiology at UNC Chapel Hill; May 2018. *Time Trends and Reproductive Health Effects of Cannabis Use.*

#### Masters Thesis Committee Membership

1. Marisa Ryan, MD/MSPH in Epidemiology at UNC Chapel Hill; May 2017. *Risk Factors for Anotia/Microtia.*

## **RESEARCH GRANTS**

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### Current Support

2023-2027      BD-STEPS III Core at the North Carolina Center for Birth Defects Research and Prevention  
Centers for Disease Control and Prevention (1 U01 DD001308)  
\$2,100,000 total award (09/01/2023 - 03/31/2027)  
Role: co-Principal Investigator

### Past support

2020-2023      Identifying Novel Cancer Predisposition Syndromes: An Integrative Epidemiologic and Genomic  
Approach  
US Department of Defense (W81XWH-20-1-0567)  
\$523,627 total award (10/01/20 – 09/30/2023)  
Role: Investigator (10% FTE); PI of sub-award to UNC (PI: PJ Lupo, Baylor College of Medicine)

2018-2023      BD-STEPS II Core at the North Carolina Center for Birth Defects Research and Prevention  
Centers for Disease Control and Prevention (1 U01 DD001231)  
\$4,370,000 total award (09/01/2018 - 08/31/2023)  
Role: co-Principal Investigator

2019-2021      Baby teeth: A new frontier for investigating environmental risk factors for birth defects  
UNC Center for Environmental Health and Susceptibility Pilot Projects Award

\$30,000 (04/01/2019 – 03/31/2021)

Role: Principal Investigator

- 2019-2021 Implications of congenital Zika virus infection  
NIH/NIAID (R21 AI137902-01)  
\$354,518 (04/01/2019 – 03/31/2021)  
Role: Investigator (MPI: N Bowman and SI Becker-Dreps, UNC School of Medicine)
- 2014-2016 Exploring the Intersection between Childhood Cancer and Birth Defects to Identify Novel Cancer Predisposition Syndromes  
Alex's Lemonade Stand Foundation  
\$200,000 (07/01/2014 - 06/30/2016)  
Role: Investigator; PI of sub-award to UNC (PI: PJ Lupo, Baylor College of Medicine)
- 2013-2018 North Carolina Birth Defects Study to Evaluate Pregnancy exposures (NC BDSTEPS)  
Centers for Disease Control and Prevention (1 U01 DD0001036-01); (09/01/2013 - 08/31/2018)  
Role: Investigator (MPI: AF Olshan and RE Meyer)

## PROFESSIONAL AND VOLUNTEER SERVICE

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Ad-hoc reviewer for the following journals (selected): *Birth Defects Research*; *Environment International*; *Epidemiology*; *Journal of Occupational and Environmental Medicine*; *North Carolina Medical Journal*; *Occupational and Environmental Medicine*; *Pediatric and Perinatal Epidemiology*; *Pediatric Research*

- 2021 Faculty Examiner, UNC Gillings School of Public Health MPH Comprehensive Exams
- 2016-2021 Faculty member, Department of Epidemiology Intradepartmental Review Committees (n=9 students)
- 2019 – Volunteer Doula, UNC Hospitals Birth Partners Program <https://www.uncmedicalcenter.org/uncmc/care-treatment/womens-health/pregnancy-birth-care/labor-delivery/doulas/>
- 2018 Judge, Jordan High School Science Fair, Durham, NC

## SELECT MEDIA COVERAGE

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*Olshan, Desrosiers will use CDC grant to improve understanding of birth defects.* UNC Gillings School of Global Public Health, Gillings School News. December 20, 2023. (<https://sph.unc.edu/sph-news/olshan-desrosiers-will-use-cdc-grant-to-improve-understanding-of-birth-defects/>)

*New epidemiology research suggests benefits to physical activity before pregnancy.* UNC Gillings School of Global Public Health; The Abstract. August 28, 2023. (<https://sph.unc.edu/briefs/aug-28-2023/>)

*Olshan, Desrosiers awarded CDC grant to study risk factors for birth defects.* UNC Gillings School of Global Public Health, Gillings School News. October 16, 2018. (<https://sph.unc.edu/sph-news/olshan-desrosiers-awarded-cdc-grant-to-study-risk-factors-for-birth-defects/>)

*Low carb diet may increase birth defect risk.* BabyCenter.com. January 31, 2018. (<https://blogs.babycenter.com/pregnancy/low-carb-diet-may-increase-birth-defect-risk/>)

*Study Links Low-Carb Diets to Brain and Spinal Cord Problems in Babies.* Parents Magazine. January 29, 2018. (<https://www.parents.com/pregnancy/complications/study-links-low-carb-diets-to-brain-and-spinal-cord-problems-in-babies/>)

*New UNC-Chapel Hill study links low carbohydrate intake to increased risk of birth defects.* UNC Chapel Hill News Release, posted in: UNC Main RSS Feed, UNC News Frontpage, Latest News, Health and Medicine, and Campus and Community. January 25, 2018. (<https://uncnews.unc.edu/2018/01/25/new-unc-chapel-hill-study-links-low-carbohydrate-intake-increased-risk-birth-defects/>) Also: **#1 most read article**, *Top 25 Hits in 2018: The Year's Most-Read News Stories.* UNC Gillings School of Global Public Health News. December 21, 2018. (<https://sph.unc.edu/sph-news/top-25-hits-in-2018-the-years-most-read-news-stories/>)

*Gluten free, low-carb diets could pose serious health risks to unborn babies.* USA TODAY. January 25, 2018. (<https://www.usatoday.com/story/news/nation-now/2018/01/25/gluten-free-low-carb-diets-could-pose-serious-health-risks-unborn-babies/1061723001/>)

*Study finds that dad's job can influence birth defects.* NIEHS Environmental Factor. October 2012. (<https://factor.niehs.nih.gov/2012/10/science-dadsjob/index.htm>)

*What does dad's job have to do with baby's birth defects?* TIME. July 20, 2012. (<http://healthland.time.com/2012/07/20/what-does-dads-job-have-to-do-with-babys-birth-defects/>)

*Dad's occupation could have a role in child's birth defects.* CBS News. July 18, 2012. (<http://www.cbsnews.com/news/dads-occupation-could-have-role-in-childs-birth-defects/>)

*Teaching with touchscreen technology.* January 1, 2004. <http://healthliteracy.com/2004/01/01/touchscreen-technology/>

*Speaker warns students of HIV/AIDS risk.* September 1, 2000. <https://tuftsdaily.com/archives/2000/09/01/speaker-warns-students-of-hiv-aids-risk/>