Founded in 1981
President: Bethany R. Hannas
Vice President: Caren M. Villano
Vice President-Elect: Sarah Campion
Secretary/Treasurer: Pragati S. Coder
Past President: Reza J. Rasoulpour
Senior Councilor: Edward Dere
Junior Councilor: AtLee Watson
New Career Councilor: Daniel Spade
Postdoc Rep: Michelle Kossack
Student Rep: Vasiliki Mourikes
Reception Agenda

- Edward Carney Trainee Awards
- Society for Birth Defects Research and Prevention Meeting Notice
- Graduate student leadership committee update
- Post-doctoral Assembly update
- 2022 Annual Meeting Proposal Request
- Budget Update
- Stephen B. Harris Mid-Career Scientist Award Sponsored by Inotiv
- New-Career Scientist Award Sponsored by LabCorp
- Best Paper Award
- Lifetime Achievement Award
- Trainee Poster Awards
- Introduction of New Officers
- Recognition of Outgoing Officers
- Open Mic
Edward W. Carney Trainee Awards

- Thank you for donations!
- 2 awards will be given each cycle in 2022
Second Place Edward W. Carney Trainee Award

Kendall Langsten (Kerr Research Group; $750).
Postdoctoral Fellow
Wake Forest School of Medicine
First Place Edward W. Carney Trainee Award

Cassandra Meakin (Aleksunes Research Group; $1000)

Postdoctoral Fellow
Rutgers University
Society for Birth Defects Research and Prevention
(formerly known as Teratology Society)
Annual Meeting Notice

Dr. Bruce Beyer,
Vice President, Society for Birth Defects Research and Prevention
62ND ANNUAL MEETING
From Bench to Bedside and Back Again
Program Chair: Bruce K. Beyer, PhD, DABT

HYATT REGENCY VANCOUVER
VANCOUVER, CANADA
JUNE 25-29, 2022
BDRP 62nd Annual Meeting
June 25-29 in Vancouver, British Columbia

- All sessions and courses livestreamed from Vancouver for remote attendees
- All session and course recordings available on demand for 90 days after live meeting
- Virtual and in-person poster sessions
- Late-Breaking Abstracts due in early May
- Early Bird Registration discounts through March 31; deep discounts for trainees
- Final decision on mode of attendance (in person or remote) by May 15
- Special social and networking events for in-person attendees
Symposia & Workshops

- Novel Approaches for Assessment of Complex Chemical Mixtures in Evaluations of Reproductive and Developmental Effects
- The DARTable Genome: Bringing Molecular and Developmental Biology to DART
- Per- and Polyfluoroalkyl Substances (PFAS) and Children's Health
- The Key Characteristics Approach for Hazard Identification: Alternative Perspectives
- Can Experimental Animal Studies Be Used in Counseling?
- Disparities in Pregnancy and Birth Outcomes
- Predicting and Preparing for the Next Pandemic: Protecting Pregnant Persons, the Fetus, and the Children
- The Legacy of Dr. Robert L. Brent: Accurate Assessment and Communication of Teratogen Risks
- Environmental Justice in Birth Defects Research
- Novel Insights into the Genomics of Structural Birth Defects: Findings from the Gabriella Miller Kids First Pediatric Research Program

From Bench to Bedside and Back Again

62nd Annual Meeting • June 2022 • Society for Birth Defects Research and Prevention
Continuing Education Courses

- Embryology and Toxicology of the Developing Respiratory System
- Birth Defects: Causes and Mechanisms
- New Technologies for Developmental and Reproductive Toxicity Testing: Microphysiological Systems

Special Lectures

- Functional Correlation of Genome-Wide DNA Methylation Profiles in Genetic and Teratogenic Neurodevelopmental Disorders, Bekim Sadikovic, London Health Sciences Centre
- Developmental Origins of Health and Disease in the ECHO Program, Matthew W. Gillman, MD, SM, National Institutes of Health
- BDRP and European Teratology Society Exchange Lecture

Plus, Awards, Platforms, and Posters

From Bench to Bedside and Back Again

62nd Annual Meeting • June 2022 • Society for Birth Defects Research and Prevention
Join us in Vancouver or online from anywhere!

www.birthdefectsresearch.org
Graduate Student Leadership Committee Update

Vasiliki (Vicki) Mourikes, PhD candidate, University of Illinois at Urbana-Champaign

RDTSS Student Representative
Events of Interest to Graduate Students

**Student and Postdoc Mixer:** Sunday, March 27\(^{th}\), 7:30-9:00 PM

**Mentoring Breakfast:** Monday, March 28\(^{th}\), 6:15-7:45 AM *

**In Vitro Lecture and Luncheon:** Monday, March 28\(^{th}\), 12:00-1:30 PM

**Career Exploration- Speed Informational Interviews:** Tuesday March 29\(^{th}\), 1:30-2:50 PM *

**Spring Student Newsletter:** great student resource!

* Registration required
Post Doctoral Assembly Update

Michelle Kossack, PhD, Brown University

RDTSS Postdoctoral Representative
• Notable opportunities offered by SOT and the Post Doctoral Assembly
  • SOT Mentor Match
  • SOT Job Bank
  • Year-round career development webinars
  • SOT Continuing Education Courses Online “CEd-Tox” – FREE for trainees!
    https://www.toxicology.org/education/ce/onlineCourses.asp
• New Experiences in Toxicology Program (NEXT)
  • Up to $1,000 for training outside of your current sector of research

• Have an idea for a scientific session? Not sure how to develop/submit?
  • Recorded webinar available online (https://www.toxicology.org/events/am/AM2023/session-proposals.asp)
2023 SOT Program Submission Planning

Caren Villano, PhD, DABT, Boehringer Ingelheim

RDTSS Vice President
Historic RDTSS Submitted/Accepted Proposals

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Submitted or Endorsed</th>
<th>Accepted (%)</th>
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</thead>
<tbody>
<tr>
<td>2014</td>
<td>19</td>
<td>9 (47%)</td>
</tr>
<tr>
<td>2015</td>
<td>15</td>
<td>6 (40%)</td>
</tr>
<tr>
<td>2016</td>
<td>15</td>
<td>8 (53%)</td>
</tr>
<tr>
<td>2017</td>
<td>19</td>
<td>12 (63%)</td>
</tr>
<tr>
<td>2018</td>
<td>16</td>
<td>9 (56%)</td>
</tr>
<tr>
<td>2019</td>
<td>11</td>
<td>7 (63%)</td>
</tr>
<tr>
<td>2020</td>
<td>16</td>
<td>10 (63%)</td>
</tr>
<tr>
<td>2021</td>
<td>15</td>
<td>11 (73%)</td>
</tr>
</tbody>
</table>

- The acceptance rate continues to be high for the RDTSS (~60%), but we need to keep momentum, so we don’t lose ground to other SS
RDTSS 2021 Program Outcome

- **Symposium:** Hypertensive Disorders of Pregnancy: Biomarkers, Models, and Environmental Influences
- **Symposium:** Role and mechanisms of persistent epigenetic alterations in toxicological responses.
- **Symposium:** State of the Science on Thyroid Hormone Regulation and Disruption During Neurodevelopment
- **Symposium:** The Microbiome in Toxicity and Disease: A Yin and Yang Duality for the Host Throughout the Lifespan
- **Symposium:** Developmental origins of inflammatory and immune diseases: identifying the effects of in utero stress on immunological competency
- **Symposium:** Cadmium and the Developmental Origins of Disease: The Implication of Early Life Exposures on Health Later in Life
- **Workshop:** Technological Advancements and Strategic Approaches in Developmental and Reproductive Toxicity Assessments
- **Workshop:** Human Neural Tube Defects: basic embryology to predictive toxicology
- **Workshop:** Current Status and Future Outlook on Developmental Immunotoxicity Testing
- **Continuing Education:** Importance of Sexual Maturity and Reproductive Senescence in Laboratory Animal Models
- **Continuing Education:** Juvenile Toxicology Testing Assessing Pediatric Safety

THANKS TO ALL OF YOU THAT SUBMITTED PROPOSALS LAST YEAR!
It’s our Favorite Time of Year: SOT Proposal Time!

• Proposals for 2023 SOT program are due to SOT (online) by May 16, 2022 at 11:59 pm (EST)

• Please submit to program to ensure RDTSS science is well represented

• Consider proposals that might reach across SS (e.g., neuro and repro) as well as those that are of current interest or hot topics

• The RDTSS Program committee is offering pre-submittal review for endorsement:
  • Submit proposals to caren.villano@boehringer-ingelheim.com ASAP (deadline was April 29, but there still some time!)
CONTRIBUTE TO THE CONTINUING EDUCATION PROGRAM!

Opportunity to connect with and teach attendees about your specialty

$500 stipend to help support each speaker

SCIENTIFIC SESSION PROPOSAL SUBMISSION DEADLINE: MAY 16, 2022

62nd Annual Meeting & ToxExpo • Nashville, TN
March 19–23, 2023

WWW.TOXICOLOGY.ORG/2023
Timelines

March 26-April 29th:
Generate ideas, talk with people, flesh out proposals

April 29, 2022:
Program proposals due to RDTSS for review

Week of May 2:
Program committee telecon to discuss submitted proposals

Week of May 9:
RDTSS comments on submitted proposals sent back to authors

May 16, 2022:
Submissions for 2023 proposals are due to SOT. Please consider submitting!!
Budget Update

Prägati S. Coder, PhD, DABT, Charles River Ashland

RDTSS Secretary/Treasurer
## General Fund

### FY July 1st ‘20 – June 30th ‘21 (Projected)

<table>
<thead>
<tr>
<th>Source</th>
<th>$$$$</th>
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</thead>
<tbody>
<tr>
<td>Net Assets BoY 2020-21</td>
<td>$29,593</td>
</tr>
<tr>
<td>Contributions Income</td>
<td>$9,700</td>
</tr>
<tr>
<td>Membership</td>
<td>$6,085</td>
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<tr>
<td>Interest</td>
<td>$1,903</td>
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<tr>
<td><strong>Total Income</strong></td>
<td>$17,688</td>
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<td>Awards/plaques</td>
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<tr>
<td>Miscellaneous</td>
<td>~$32</td>
</tr>
<tr>
<td>Reception (2021)</td>
<td>$0</td>
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<tr>
<td>Revenue over Expenses</td>
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<tr>
<td><strong>Net Assets EoY</strong></td>
<td><strong>$39,964</strong></td>
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### FY July 1st ‘21 – June 30th ‘22 (Projected)

<table>
<thead>
<tr>
<th>Source</th>
<th>$$$$</th>
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</thead>
<tbody>
<tr>
<td>Net Assets BoY 2021-22</td>
<td>$39,964</td>
</tr>
<tr>
<td>Contributions Income</td>
<td>~$9,500-10,500</td>
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<tr>
<td>Membership</td>
<td>~$5,800-6,200</td>
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<tr>
<td>Interest</td>
<td>~$1,800-2,000</td>
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<tr>
<td><strong>Total Income</strong></td>
<td>~$17,100-18,700</td>
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<tr>
<td>Awards/plaques</td>
<td>~$7,200-7,300</td>
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<td>Miscellaneous</td>
<td>~$50-100</td>
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<td>In-Person Reception (San Diego)</td>
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<td>Revenue over Expenses</td>
<td>~$3,271-9,850</td>
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<tr>
<td><strong>Net Assets EoY Projection</strong></td>
<td><strong>$43,235 - $49,814</strong></td>
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*New Annual $1000 contribution by Elsevier starting 2021 to support Postdoc Awards.*
Edward Carney Endowment Fund

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<tr>
<th>Endowment Fund 85-039-1</th>
<th>June 2020 (EoY)</th>
<th>June 2021 (EoY)</th>
<th>December 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Income</strong></td>
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</tr>
<tr>
<td>Contributions</td>
<td>$1,000</td>
<td>$750</td>
<td>$750</td>
</tr>
<tr>
<td>Employer Matching Funds</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>SOT Matching Funds</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Gain (Loss) on Investments</td>
<td>$1,657</td>
<td>$25,265</td>
<td>$3,200</td>
</tr>
<tr>
<td><strong>Total Income</strong></td>
<td>$2,657</td>
<td>$26,015</td>
<td>$3,950</td>
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<tr>
<td><strong>Expense</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Awards</td>
<td>$1,000</td>
<td>$0</td>
<td>~$7,000</td>
</tr>
<tr>
<td>Revenue over Expenses</td>
<td>$1,657</td>
<td>$26,015</td>
<td>$3,950</td>
</tr>
<tr>
<td>Net Assets Beginning of Year</td>
<td>$98,402</td>
<td>$100,079</td>
<td>$126,095</td>
</tr>
<tr>
<td><strong>Net Assets End of Year</strong></td>
<td><strong>$100,079</strong></td>
<td><strong>$126,095</strong></td>
<td><strong>$130,045</strong></td>
</tr>
</tbody>
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2021 New-Career Scientist Award Sponsored by LabCorp

Caren Villano, PhD, DABT, Boehringer Ingelheim

RDTSS Vice President
New-Career Scientist Award Sponsored by LabCorp

• New Career scientist award, started in 2019
• Recognizes outstanding contributions of a younger career scientist in RDTSS
• Thank you to the judges: Sarah Campion, Kary Thompson, Bethany Hannas, and AtLee Watson

2019
Dr. Patrick Allard

2020
Dr. Natalie Johnson

2021
Dr. Phoebe Stapleton

2022
2022 RDTSS New-Career Scientist Award Sponsored by LabCorp

Dr. Shuo Xiao
Ernest Mario School of Pharmacy
Rutgers University

Congratulations!
2021 Mid-Career Scientist Award Sponsored by Inotiv

Daniel Spade, PhD, Brown University

RDTSS New Career Councilor
RDTSS Awards

• Stephen B. Harris Mid-Career Scientist Award Sponsored by Inotiv
  • New Award – Mid-Career scientist award, started in 2019
  • Recognize outstanding contributions of a mid-career scientist in RDTSS
  • Thank you to the judges: Pragati Coder, Ed Dere, Bethany Hannas, Caitlin Murphy, Reza Rasoulpour, Caren Villano, and John Yu

2019
Dr. Aileen Keating

2020
Dr. Kary Thompson

2021
Dr. Chris Bowman

2022

2022 Stephen B. Harris Mid-Career Scientist Award Sponsored by Inotiv

Dr. Heather B. Patisaul
North Carolina State University

Congratulations!
RDTSS Best Paper Award

Edward Dere, PhD, DABT
Genentech

RDTSS Senior Councilor
Considered manuscripts published in Toxicological Sciences between January 2021 and December 2021

To be considered for the award, a paper must:
- have at least one member of RDTSS as an author
- be in a subject relevant to the specialty section
- be primary research (review articles were not considered)

Queried the current RDTSS membership roster by name and affiliation.
• 21 Manuscripts in the areas of Reproductive or Developmental Toxicology appeared in Toxicological Sciences in 2021.
• 13 Manuscripts by RDTSS members were eligible for the award.
• 15 RDTSS Members made up the judging committee.
• Any conflicts were addressed, and papers were randomly distributed.
• Each paper was reviewed by at least 2 individual judges.
• Each judge reviewed up to 2 papers each.
• 13 Papers were judged based on:
  • Originality
  • Scientific Quality
  • Relevance to the field
  • Contribution to the field

• Scores were averaged and ranked following the initial review.
• Top 4 papers were redistributed to 6 judges.
• Same criteria were applied, and scores were averaged and ranked.
<table>
<thead>
<tr>
<th>Enrica Bianchi</th>
<th>Aileen Keating</th>
<th>Caitlin Murphy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Justin Conley</td>
<td>Susan Laffan</td>
<td>Jessica Plavicki</td>
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<tr>
<td>Jodi Flaws</td>
<td>Chris Lau</td>
<td>Vicki Sutherland</td>
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<tr>
<td>Alan Hoberman</td>
<td>Barry McIntyre</td>
<td>Kary Thompson</td>
</tr>
<tr>
<td>Natalie Johnson</td>
<td>Jeff Moffit</td>
<td>Pei-Lei Yao</td>
</tr>
</tbody>
</table>
Effects of an Environmentally Relevant Mixture of Organophosphate Esters Derived From House Dust on Endochondral Ossification in Murine Limb Bud Cultures

Han Yan and Barbara F. Hales

Department of Pharmacology & Therapeutics, McGill University, Montreal, Quebec H3G 1Y6, Canada

1To whom correspondence should be addressed at Department of Pharmacology & Therapeutics, McGill University, 3655 Promenade Sir William Osler, Montreal, QC H3G 1Y6, Canada. E-mail: barbara.hales@mcgill.ca.
Ovulation is Inhibited by an Environmentally Relevant Phthalate Mixture in Mouse Antral Follicles In Vitro

Katie L. Land, Madison E. Lane, Ava C. Fugate, and Patrick R. Hannon

Department of Obstetrics & Gynecology, College of Medicine, University of Kentucky, Lexington, Kentucky

To whom correspondence should be addressed at Department of Obstetrics & Gynecology, College of Medicine, University of Kentucky, 800 Rose St., MS331B UKMC, Lexington, KY, 40536. E-mail: patrick.hannon@uky.edu
Peritubular Macrophages Are Recruited to the Testis of Peripubertal Rats After Mono-(2-Ethylhexyl) Phthalate Exposure and Is Associated With Increases in the Numbers of Spermatogonia

Ross Gillette,* Richa Tiwary,* Jorine J. L. P. Voss,* Shavini N. Hewage,† and John H. Richburg †* 1

*Division of Pharmacology and Toxicology, The Center for Molecular Carcinogenesis and Toxicology, College of Pharmacy and †College of Natural Sciences, The University of Texas at Austin, Austin, Texas 78712, USA

Ross Gillette and Richa Tiwary contributed equally to this work.
†To whom correspondence should be addressed. E-mail: john.richburg@austin.utexas.edu.
RDTSS Scientific Achievement Award

AtLee Watson, Ph.D, ILS

RDTSS Junior Councilor
RDTSS Scientific Achievement Award

- RDTSS member for lifetime achievement or for contribution of a particularly influential body of work to the field of reproductive and developmental toxicology.
- The awardee is selected from among membership nominations by a committee formed by the RDTSS Executive Committee. Nominations included a short narrative or list of the accomplishments upon which the nomination was based, a CV, and letter(s) of support.

• The nominations were judged based on:
  • Contributions to Reproductive and Development Toxicology
  • Contributions to RDTSS and SOT
  • Role in Mentoring Next Generation of Toxicologists

• The nomination letters and CVs were distributed to the judging committee:
  Reza Rasoulpour, Bethany Hannas, Kary Thompson, Caren Villano, Sarah Campion, Vicki Sutherland
2022 RDTSS Scientific Achievement Award

Dr. John M. Rogers, PhD

ToxStrategies

Congratulations!
RDTSS Student/Postdoc Poster Award
Sponsored by Charles River, Pfizer and Elsevier

Sarah Campion, PhD
Pfizer
RDTSS Vice President Elect
Posters were reviewed and scored by the following panel of judges:

Christopher Bowman    Daniel Spade
Caren Villano         Bethany Hannas
Shuo Xiao             Vicki Sutherland
Natasha Catlin        Pallavi Bhuyan McElroy
Graduate Student Awardees

Amy Tran, University of Southern California
Characterizing the Effects of Early Postnatal Acetaminophen and Ibuprofen Administration on Immediate and Long-Term Male Reproductive Development

Alex Haimbaugh, Wayne State University
Insight into TCDD-Induced Disruption of Zebrafish Spermatogenesis via Single Cell RNA-Seq

Madeline Tompach, University of Massachusetts Amherst
Examining PFOS-Induced Dyslipidemia and Use of Alpha Lipoic Acid (ALA) as a Potential Mitigation Strategy in Zebrafish (Danio rerio)

Congratulations!
Postdoctoral Fellow Awardees

Jing Zheng, University of Calgary
Gestational Low Dose Bisphenol A Exposure Disrupts the Sexually Dimorphic Development of Vasopressinergic System in Mice

Michelle Kossack, Brown University
Identifying the Cellular and Molecular Targets of 2,3,7,8-Tetrachlorodibenzo-p-dioxin-Induced Infertility in Female Zebrafish

Lauren Walker, Rutgers University
Human Placental Macrophage Responses to Cadmium Exposure

Congratulations!
New RDTSS Officers

Vice President Elect
Almudena Veiga-Lopez
U of Illinois, Chicago

Secretary/Treasurer
Prägati Coder
Charles River

Junior Councilor
Shuo Xiao
Rutgers University

New Career Councilor
Pallavi McElroy
Janssen Pharmaceuticals

Graduate Student Rep
Danielle Kozlosky
Rutgers University
Acknowledgement of Outgoing Officers

- Senior Councilor: Ed Dere, Genentech
- New Career Councilor: Dan Spade, Brown University
- Graduate Student Rep: Vicki Mourikes, University of Illinois
- Past President: Reza Rasoulpour, Corteva Agriscience
New Business/Discussion?
See you in Nashville!!