

Chelsea M. Rochman

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HIGHLIGHTS

- Pioneer and internationally recognized leader in microplastic pollution research
 - Strong record of grantsmanship (secured extramural research support worth >4M CAD since 2017)
 - Regular publication of high-impact research (H-index: 38; Google Scholar citations: >9300; papers in *Science*, *Nature*, *PNAS*)
 - PI of large, productive research lab (~20 current trainees, including 5 full-time graduate students and 4 PDFs)
 - Work regularly featured in news, documentaries, and other media (e.g., *CBC*, *New York Times*, *Washington Post*, *The Atlantic*, *LA Times*, *National Geographic*, *BBC*, *NPR*, etc.). Featured 9 times in UofT's *Arts and Science News*, and 4 times in *UofT News*.
 - Successfully work with industry and government to shape science-based policy (e.g., California Bill AB888, US Microbead-free Waters Act, Canada G7 ocean plastics charter)
 - Strong record of outreach (e.g., founder and director of the UofT Trash Team; regularly lead science communication training workshops)
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EDUCATION

PhD	University of California, Davis and San Diego State University; Joint Doctoral Program in Ecology, May 2013
BS	University of California San Diego; Biology: Ecology, Behavior and Evolution, December 2007

APPOINTMENTS & EXPERIENCE

CURRENT

2016-	Assistant Professor, Dept. of Ecology & Evolutionary Biology, University of Toronto
2016-	Research Consultant, Ocean Conservancy

PAST

2014-2016	David H. Smith Postdoctoral Fellow, Society for Conservation Biology; based
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2013-2014 at University of California Davis and University of Toronto
Postdoctoral Scholar, Aquatic Health Program, School of Veterinary Medicine,
University of California Davis

PUBLICATIONS

JOURNAL ARTICLES

Hermabessiere, L., Rochman, C.M. 2021. Microwave assisted extraction for quantification of microplastics using pyrolysis-GC/MS. *Environmental Toxicology and Chemistry*.

McIlwraith, H.K., Kim, J., Helm, P., Bhavsar, S.P., Metzger, J.S., Rochman, C.M. 2021. Evidence of microplastic translocation in wild-caught fish and implications for microplastic accumulation dynamics in food webs. *Environmental Science and Technology*.

O'Brian, A., Lins, T.F., Yang, Y., Frederickson, M.E., Sinton, D., Rochman, C.M. 2021. A common contaminant shifts impacts of climate change on a plant-microbe mutualism: effects of temperature, CO₂ and leachate from tire wear particles. *Environmental Research*, 203, p.111727.

Munno, K., Helm, P.A., Rochman, C.M., George, T., Jackson, D.A. 2021. Microplastic contamination in Great Lakes Fish. *Conservation Biology*.

Guo, Y., O'Brien, A.M., Lins, T.F., Shahmohamadloo, R.S., Almirall, X.O., Rochman, C.M., Sinton, D. 2021. Effects of hydrogen peroxide on cyanobacterium *Microcystis aeruginosa* in the presence of nanoplastics. *Environmental Science and Technology Water*.

Chibwe, L., Parrott, J.L., Shires, K., Khan, H., Clarence, S., Lavalley, C., Sullivan, C., O'Brien, A.M., De Silva, A.O., Muir, D.C.G., Rochman, C.M. 2021. A deep dive into the complex chemical mixture and toxicity of tire wear particle leachate in fathead minnow. *Environmental Toxicology and Chemistry*.

Giles, R.K., Nguyen, C.A.T., Ho, T.T.Y., Nguyen, C.V., Ngo, N.T., Rochman, C.M. 2021. Source-specific patterns of marine debris and associated ecological impacts in the Red River Estuary of Xuan Thuy National Park, Vietnam. *Frontiers in Environmental Science*, 9, 162.

Cowger, W., Steinmetz, Z., Gray, A., Munno, K., Lynch, J., Hapich, H., Primpke, S., De Frond, H., Rochman, C.M., Herodotou, O. 2021. Microplastic spectral classification needs an open-source community: Open Specy to the rescue! *Analytical Chemistry*.

Zhu, X., Munno, K., Grbic, J., Werbowski, L., Bikker, J., Ho, A., Sedlak, M., Sutton, R., Box, C., Lin, D., Gilbreath, A., Holleman, R.C., Fortin, M., Rochman, C.M. 2021. Holistic assessment of microplastics and other anthropogenic microdebris in an urban bay sheds light on their sources and fate. *Environmental Science and Technology Water*.

Hamilton, B.M., Bourdages, M.P., Geoffroy, C., Vermaire, J.C., Mallory, M.L., Rochman, C.M. and Provencher, J.F., 2021. Microplastics around an Arctic seabird colony: Particle community

composition varies across environmental matrices. *Science of The Total Environment*, 773, p.145536.

Miller, E., Sedlak, M., Lin, D., Box, C., Holleman, C., Rochman, C.M. and Sutton, R., 2021. Recommended best practices for collecting, analyzing, and reporting microplastics in environmental media: Lessons learned from comprehensive monitoring of San Francisco Bay. *Journal of Hazardous Materials*, 409, p.124770.

Bucci, K., Bikker, J., Stevack, K., Watson-Leung, T. and Rochman, C., 2021. Impacts to Larval Fathead Minnows Vary between Preconsumer and Environmental Microplastics. *Environmental Toxicology and Chemistry*.

Hou, L., McMahan, C.D., McNeish, R.E., Munno, K., Rochman, C.M. and Hoellein, T.J., 2021. A fish tale: a century of museum specimens reveal increasing microplastic concentrations in freshwater fish. *Ecological Applications*, p.e2320.

Smyth, K., Drake, J., Li, Y., Rochman, C., Van Seters, T. and Passeport, E., 2021. Bioretention cells remove microplastics from urban stormwater. *Water Research*, 191, p.116785.

Klasios, N., De Frond, H., Miller, E., Sedlak, M. and Rochman, C.M., 2021. Microplastics and other anthropogenic particles are prevalent in mussels from San Francisco Bay, and show no correlation with PAHs. *Environmental Pollution*, 271, p.116260.

Syberg, K., Nielsen, M.B., Clausen, L.P.W., van Calster, G., van Wezel, A., Rochman, C., Koelmans, A.A., Cronin, R., Pahl, S. and Hansen, S.F., 2021. Regulation of plastic from a circular economy perspective. *Current Opinion in Green and Sustainable Chemistry*, p.100462.

Felismino, M.E.L., Helm, P.A. and Rochman, C.M., 2021. Microplastic and other anthropogenic microparticles in water and sediments of Lake Simcoe. *Journal of Great Lakes Research*, 47(1), pp.180-189.

Rochman, C.M., Munno, K., Box, C., Cummins, A., Zhu, X. and Sutton, R., 2020. Think Global, Act Local: Local Knowledge Is Critical to Inform Positive Change When It Comes to Microplastics. *Environmental Science & Technology*.

Earn, A., Bucci, K. and Rochman, C.M., 2020. A systematic review of the literature on plastic pollution in the Laurentian Great Lakes and its effects on freshwater biota. *Journal of Great Lakes Research*.

Rochman, C.M., 2020. THE STORY OF PLASTIC POLLUTION. *Oceanography*, 33(3), pp.60-70.

Werbowski, L., Gilbreath, A., Munno, K., Grbic, J., Wu, T., Sutton, R., Sedlak, M., Deshpande, A., Rochman, C.M. Urban stormwater runoff: a major pathway for anthropogenic particles, black rubbery fragments, and other types of microplastics to urban receiving waters. *In press ES&T Water*.

Brookson, C., Kirk, D., Rochman, C.M. Combining ecotoxicology and classical ecological models to predict the effects of microplastics on aquatic populations. *In revision at Ecology and Evolution*

Hoellein, T.J. and Rochman, C.M., 2021. The “plastic cycle”: a watershed-scale model of plastic pools and fluxes. *Frontiers in Ecology and the Environment*, 19(3), pp.176-183.

Hung, C., Klasios, N., Zhu, X., Sedlak, M., Sutton, R. and Rochman, C.M., 2021. Methods matter: Methods for sampling microplastic and other anthropogenic particles and their implications for monitoring and ecological risk assessment. *Integrated Environmental Assessment and Management*, 17(1), pp.282-291.

Wyer, H., Polhemus, D., Moore, S., Weisberg, S.B., Coffin, S., Rochman, C.M. 2020. Steps scientists can take to inform aquatic microplastics management: A perspective informed by the California experience. *Applied Spectroscopy*, 74, 971-975.

Brander, S., Renick, V.C., Foley, M.M., Steele, C., Woo, M., ... Rochman, C.M. 2020. Sampling and quality assurance and quality control: A guide for scientists investigating the occurrence of microplastics across matrices. *Applied Spectroscopy*, 74, 1099-1125.

Cowger, W., Gray, A., Christiansen, S.H., De Frond, H., Deshpande, A., ... **Rochman, C.M.**, ... Primpke, S. 2020. Critical review of processing and classification techniques for images of spectra in microplastic research. *Applied Spectroscopy*, 0003702820929064.

Cowger, W., Booth, A., Hamilton, B., Primpke, S., ... **Rochman, C.M.**, ... Nel, H. 2020. Reporting guidelines to increase reproducibility and comparability of research on microplastics. *Applied Spectroscopy*, 0003702820930292.

Rochman, C. & Hoellein, T. 2020. Atmospheric microplastic transport and the global odyssey of plastic pollution. *Invited Perspective at Science*, 368, 1184-1185.

Borrelle, S.B., Ringma, J., Lebreton, L., Jambeck, J., Law, K.L., ... **Rochman, C.M.** 2020. Plastic futures: targeting meaningful reductions of plastic emissions. *Science*, 369, 1515-1518.

Kim, J., Poirier, D.G., Helm, P.A., Bayoumi, M., **Rochman, C.M.** 2020. No evidence of microplastic translocation in adult rainbow trout (*Oncorhynchus mykiss*) after a two-week dietary exposure. *PLOS ONE*, 15 (9) e0239128.

Bikker, J., Lawson, J., Wilson, S., **Rochman, C.M.** 2020. Microplastics and other anthropogenic particles in the surface waters of the Chesapeake Bay. *Marine Pollution Bulletin*, 156, 111257.

Tsui, N., Helm, P., Hruska, J., **Rochman, C.M.** 2020. Kicking pellet emissions to the curb. *IEAM*, 16, 788-790.

Huntington, A., Corcoran, P.L., Jantunen, L., Thaysen, C., Bernstein, S., Stern, G.A., **Rochman, C.M.** 2020. A first assessment of microplastics and other anthropogenic particles in Hudson Bay and the surrounding Eastern Canadian Arctic waters of Nunavut. *FACETS*, 5, 432-454.

Provencher, J.F., Liboiron, M., Borrelle, S.B., Bond, A.L., **Rochman, C.**, Lavers, J.L., Avery-Gomm, S., Yamashita, R., Ryan, P.G., Lusher, A.L. and Hammer, S., 2020. A Horizon Scan of research priorities to inform policies aimed at reducing the harm of plastic pollution to biota. *Science of The Total Environment*, p.139381.

- Grbić, J., Helm, P., Athey, S. and **Rochman, C.M.**, 2020. Microplastics entering northwestern Lake Ontario are diverse and linked to urban sources. *Water Research*, 174, p.115623.
- Thaysen, C., Sorais, M., Verreault, J., Diamond, M.L. and **Rochman, C.M.**, 2020. Bidirectional transfer of halogenated flame retardants between the gastrointestinal tract and ingested plastics in urban-adapted ring-billed gulls. *Science of The Total Environment*, p.138887.
- Thaysen, C., Munno, K., Hermabessiere, L., **Rochman, C.M.** 2020. Towards Raman automation for microplastics: developing strategies for particles adhesion and filter subsampling. *Applied Spectroscopy*, 0003702820922900.
- Zhang, X., Mell, A., Li, F., Thaysen, C., ... **Rochman, C.M.**, ... Jobst, K.J. 2020. Rapid fingerprinting of source and environmental microplastics using direct analysis in real time-high resolution mass spectrometry. *Analytica Chimica Acta*, 1100, 107-117.
- Yang, Y., Guo, Y., O'Brien, A.M., Lins, T.F., **Rochman, C.M.** and Sinton, D., 2020. Biological Responses to Climate Change and Nanoplastics Are Altered in Concert: Full-Factor Screening Reveals Effects of Multiple Stressors on Primary Producers. *Environmental Science & Technology*, 54(4), pp.2401-2410.
- Kolomijeca, A., Parrott, J., Khan, H., Shires, K., Clarence, S., Sullivan, C., Chibwe, L., Sinton, D. and **Rochman, C.M.**, 2020. Increased temperature and turbulence alter the effects of leachates from tire particles on fathead minnow (*Pimephales promelas*). *Environmental Science & Technology*, 54(3), pp.1750-1759.
- Sopinka, N.M., Coristine, L.E., DeRosa, M.C., **Rochman, C.M.**, Owens, B.L. and Cooke, S.J., 2020. Envisioning the scientific paper of the future. *FACETS*, 5(1), pp.1-16.
- Munno, K., De Frond, H., O'Donnell, B., **Rochman, C.M.** 2020. Increasing the accessibility for characterizing microplastics: Introducing new application-based and spectral libraries of plastic particles (SLoPP & SLoPP-E). *Analytical Chemistry*.
- Bucci, K., Tulio, M., **Rochman, C.M.** 2020. What is known and unknown about the effects of plastic pollution: a meta-analysis and systematic review. *Ecological Applications*.
- Zhu, X., Nguyen, B., You, J.B., Karakolis, E., Sinton, D., Rochman, C.M. 2019. Identification of microfibers in the environment using multiple lines of evidence. *Environmental Science & Technology*, 53, 11877-11887.
- Gilbraith, A., McKee, L., Shimabuku, I., Lin, D., Werbowski, L.M., Zhu, X., Grbic, J., **Rochman, C.** 2019. Multiyear water quality performance and mass accumulation of PCBs, mercury, methylmercury, copper, and microplastics in a bioretention rain garden. *Journal of Sustainable Water in the Built Environment*. 4, 04019004.
- Karakolis, E.G., Nguyen, B., You, J.B., Rochman, C.M., Sinton, D. 2019. Fluorescent dyes for visualizing microplastic particles and fibers in laboratory-based studies. *Environmental Science & Technology Letters*. 6, 334-340.

Richard, H., Carpenter, E.J., Komada, T., Palmer, P.T., **Rochman, C.M.** 2019. Biofilm facilitate metal accumulation onto microplastics in estuarine waters. *Science of the Total Environment*. **683**, 600-608.

Rochman, C.M., Brookson, C., Bikker, J., Djuric, N., Earn, A., Bucci, K., Athey, S., Huntington, A., Mcllwraith, H., Munno, K., De Frond, H., Kolomijeca, A., Erdle, L., Grbic, J., Bayoumi, M., Borrelle, S.B., Wu, T., Santoro, S., Werbowski, L.M., Zhu, X., Giles, R.K., Hamilton, B.M., Thaysen, C., Kaura, A., Klasios, N., Ead, L., Kim, J., Sherlock, C., Ho, A., Hung, C. 2019. Rethinking microplastics as a diverse contaminant suite. *Environmental Toxicology and Chemistry*. **38**, 703-711.

De Frond, H.L., van Seville, E., Parnis, J.M., Diamond, M.L., Mallos, N., Kingsbury, T., **Rochman, C.M.** 2019. Estimating the mass of chemicals associated with ocean plastic pollution to inform mitigation efforts. *Integrated Environmental Assessment and Management*. *In press*.

Brookson, C.B., de Solla, S., Fernie, K.J., Cepeda, M.F.E., **Rochman, C.M.** 2019. Microplastics in the diet of nestling double-crested cormorants (*Phalacrocorax auratus*), an obligate piscivore in a freshwater ecosystem. *Canadian Journal of Fisheries and Aquatic Sciences*. *In press*.

Gassel, M., **Rochman, C.M.** 2019. The complex issue of chemicals and microplastic pollution: A case study in North Pacific lanternfish. *Environmental Pollution*. **248**, 1000-1009.

Li, L., Su, L., Cai, H., **Rochman, C.M.**, Li, Q., Kolandhasamy, P., Peng, J., Shi, H. 2019. The uptake of microfibers by freshwater Asian clams (*Corbicula fluminea*) varies based upon physicochemical properties. *Chemosphere*. **221**, 107-114.

Grbic, J., Nguyen, B., Guo, E., You, J.B., Sinton, D., **Rochman, C.M.** 2019. Magnetic extraction of microplastics from environmental samples. *Environmental Science & Technology Letters*. **6**, 68-72.

Schonlau, C., Larsson, M., Lam, M.M., Engwall, M., Glesy, J.P., **Rochman, C.M.**, Karrman, A. 2019. Aryl hydrocarbon receptor-mediated potencies in field-deployed plastics vary by type of polymer. *Environmental Science and Pollution Research*. 1-10.

Provencher, J.F., Ammendolia, J., Rochman, C.M., Mallory, M.L. 2019. Assessing plastic debris in aquatic food webs: what we know and don't know about uptake and trophic transfer. *Environmental Reviews*.

Mcllwraith, H.K., Lin, J., Erdle, L.M., Mallos, N., Diamond, M., **Rochman, C.M.** 2019. Capturing microfiber – marketed technologies reduce microfiber emissions from washing machines. *Marine Pollution Bulletin*. **139**, 40-45.

Smith, M., Love, D.C., **Rochman, C.M.**, Neff, R.A. 2018. Microplastics in seafood and implications for human health. *Current Environmental Health Reports*. 1-12.

Rochman, C.M. 2018. Microplastics research: from sink to source. *Science*. **360**, 28-29.

Thaysen, C., Stevack, K., Ruffolo, R., Poirier, D., De Frond, H., DeVera, J., Sheng, G., **Rochman,**

C.M. 2018. Leachate from expanded polystyrene cups is toxic to aquatic invertebrates (*C. dubia*). **Frontiers in Marine Science**. 5, 71.

Nguyen, B., Graham, P. J., **Rochman, C.M.**, Sinton, D. 2018. A platform for high-throughput assessments of environmental multi-stressors. **Advanced Science**. 1700677.

Karakolis, E., Nguyen, B., Bem You, J., Graham, P. J., **Rochman, C.M.**, Sinton, D. 2018. Digestible fluorescent coatings facilitate more accurate quantification of microplastic ingestion. **Env. Sci. Technol. Lett.** 5, 62-67.

Su, L., Cai, H., Kolandhasamy, P., Wu, C., **Rochman, C.M.**, Shi, H. 2018. Using the Asian clam as an indicator of microplastic pollution in freshwater ecosystems. **Environmental Pollution**. 234, 347-355.

Rochman, C.M., Parnis, J. M., Serrato, S., Browne, M. A., Reiner, E. J., Robson, M., Young, T., Diamond, M. L., Teh, S. J. 2017. Direct and indirect effects of different types of common microplastics in a freshwater foodchain. **PLOS ONE**. 12 (11) e0187664.

Borrelle, S., *Rochman, C.M., Liboiron, M., Bond, A. L., Lusher, A., Bradshaw, H., Provencher, J. F. 2017. Why we need an international agreement on marine plastic pollution. **Proceedings of the National Academy of Sciences**. 114 (38) 9994–9997. *Corresponding author and shared first authorship.

Munno, K., Helm, P.A., Jackson, D.A., **Rochman, C.M.**, Sims, A. 2017. Impacts of temperature and selected chemical digestion methods on microplastic particles. **Environmental Toxicology and Chemistry**. 37 (1) 91-98.

McDevitt, J. P., Criddle, C. S., Morse, M., Hale, R. C., Bott, C. B., **Rochman, C.M.** 2017. Addressing the issue of microplastics in the wake of the Microbead-Free Waters Act – A new standard can facilitate improved policy. **Environmental Science and Technology**. 51 (12) 6611-6617.

Rochman, C.M., Regan, F., Thompson, R.C. On the harmonization of methods for measuring the occurrence, fate and effects of microplastics. **Analytical Methods**. 9 (9), 1324-1325.

Wagner, J., Wang, Z., Ghosal, S., **Rochman, C.M.**, Gassel, M., Wall, S. 2017. A novel method for extraction and identification of microplastics in ocean trawls and fish gut matrices. **Analytical Methods**. 9 (9) 1324-1325.

Sagarin, R.D., Adams, J., Blanchette, C.A., Brusca, R.C., Chorover, J., Cole, J.E., Lubchenco, J., Micheli, F., Munguia-Vega, A., **Rochman, C.M.**, Troch, P.A., van Haren, J. 2016. Between control and complexity: Opportunities and challenges for marine mesocosms. **Frontiers in Ecology and the Environment**. 14 (7) 389-386.

Rochman, C.M., Cook, A., Koelmans, A.A. 2016. Plastic debris and policy: Using current scientific understanding to invoke positive change. **Environmental Toxicology and Chemistry**. 35 (7) 1617-1626.

Rochman, C.M. 2016. Ecologically relevant data are policy-relevant data. **Science**. 352 (6290) 1172. *Invited Perspective*.

Rochman, C.M. 2016. Strategies for reducing ocean plastic debris should be diverse and guided by science. **Environmental Research Letters**. 11, 014006. *Invited Perspective*. In *ERL Monthly Highlights*.

Rochman, C.M., Browne, M.A., Underwood, A.J., van Franeker, J.A., Amaral-Zettler, L.A., Thompson, R.C. 2016. Perceived and demonstrated ecological impacts of marine debris. **Ecology**. 97 (2), 303-312.

Green, S., Armstrong, J., Bogan, M., Darling, E., Kross, S., **Rochman, C.M.**, Smyth, A., Verissimo, D. 2015. De-defining conservation. **Conservation Letters**. 8 (6) 385-387.

Rochman, C.M., Tahir, A., Williams, S.L., Baxa, D.V., Lam, R., Miller, J.T., Teh, F., Werorilangi, S., Teh, S.J. 2015. Anthropogenic debris in seafood: Plastic debris and fibers from textiles in fish and bivalves sold for human consumption. **Nature Scientific Reports**. 5, 14340. *Sci Reports top 100 read articles for 2015*.

Rochman, C.M., Kross, S.M., Armstrong, J.B., Bogan, M.T., Darling, E.S., Green, S.J., Smyth, A.R., Verissimo, D. 2015. Scientific evidence supports a ban on microbeads. **Environmental Science and Technology** 49, 10759-10761. *Most read article in ES&T for December, 2015*.

Rochman, C.M., Kurobe, T., Flores, I., Teh, S. J. 2014. Early warning signs of endocrine disruption in adult fish from the ingestion of polyethylene with and without sorbed chemical pollutants from the marine environment. **Sci. Tot. Environ.** 493, 656-661.

Klepadlo, C., **Rochman, C.M.**, Davison, P. 2014. Report of *Myctophum phengodes* (Osteichthyes, Myctophidae) with extraneous photophores. **Copeia**. 2014(1), 106-108.

Rochman, C.M., Boxall, A. B. A. 2014. Environmental relevance: A necessary component of experimental design to answer the question, "SO WHAT?" **Integrated Environmental Assessment and Management** 10, 311-312.

Rochman, C.M., Lewison, R. L., Eriksen, M., Allen, H., Cook, A., Teh, S. J. 2014. Polybrominated diphenyl ethers (PBDEs) in fish tissue may be an indicator of plastic contamination in marine habitats. **Science of the Total Environment** 476-477, 622-633.

Rochman, C.M., Hentschel, B. T., Teh, S. J. 2014. Long-term sorption of metals is similar among plastic types: implications for plastic debris in aquatic environments. **PLOS ONE** 9(1), e85433.

Rochman, C.M., Hoh, E., Kurobe, T., Teh, S. J. 2013. Ingested plastic transfers hazardous chemicals to fish and induces hepatic stress. **Nature Scientific Reports** 3, 3263.

Rochman, C.M., Manzano, C., Hentschel, B., Massey-Simonich, S. L., Hoh, E. 2013. Polystyrene plastic: a source and sink for polycyclic aromatic hydrocarbons in the marine environment. **Environmental Science and Technology**. 47 (24), 13976-13984..

Rochman, C.M. 2013. Plastics and priority pollutants: a multiple stressor in aquatic habitats. *Environmental Science and Technology*. 47, 2439-2440.

Rochman, C.M., Browne, M. A., Halpern, B. S., Hentschel, B. T., Hoh, E., Karapanagioti, H. K., Rios, L. R., Takada, H., Teh, S., Thompson, R. C. 2013. Classify plastic waste as hazardous. *Nature*, 494, 169-171.

Rochman, C.M., Hoh, E., Hentschel, B. T., Kaye, S. 2013. Long-term field measurement of sorption of organic contaminants to five types of plastic pellets: implications for plastic marine debris. *Environmental Science and Technology*. 47, 1646-1654.

Van, A., **Rochman, C.M.**, Flores, E., Hill, K., Vargas, E., Vargas, S., Hoh, E. 2011. Persistent organic pollutant content of marine debris found on beaches in San Diego, California. *Chemosphere* 86, 258-263.

EDITED VOLUMES

Weisberg, S., Whitley, A., **Rochman, C.M.** 2020. Microplastics Methods. *Applied Spectroscopy*. Issue 9.

Rochman, C.M., Thompson, R. T., Regan, F. 2017. Microplastics in the Environment. *Analytical Methods*. Issue 9.

Koelmans, B, **Rochman, C.M.** 2016. Plastic debris in the aquatic environment – Mechanisms and implications. *Environmental Toxicology and Chemistry*. 35 (7) 1617 -1676.

REPORTS

FAO (2017) Microplastics in fisheries and aquaculture. (Lusher, A. and Hollman, P., eds).

GESAMP (2016). "Sources, fate and effects of microplastics in the marine environment: part two of a global assessment" (Kershaw, P.J., and **Rochman, C.M.**, eds).

STAC (2016) "Technical Review of Microbeads/Microplastics in the Chesapeake Bay".

BOOK CHAPTERS

Rochman, C.M. 2016. The role of plastic debris as another source for the bioaccumulation of chemicals in lower-trophic level organisms. *Springer Online Textbook Chapter in The Handbook of Environmental Chemistry*. Springer International Publishing. 1-15.

Rochman, C.M. 2015. The complex mixture, fate and toxicity of chemicals associated with plastic debris in the marine environment. *Springer Online Textbook Chapter in Marine Anthropogenic Litter*. Springer International Publishing. 117-140.

FELLOWSHIPS & GRANTS (in CAD unless noted otherwise)

FELLOWSHIPS & AWARDS

2021	Carolyn Tuohy Award	\$2500
2021	Presidents Impact Award	\$50,000
2020	Inducted into the College of the Royal Society of Canada	NA
2020	Sloan Fellowship	\$75K (USD)
2019	APEC Science Prize for Innovation, Research and Education	\$1200 (USD)
2014-2016	David H. Smith Postdoctoral Fellowship	\$140K (USD)
2013	Knauss Fellowship	(declined)
2011-2013	ARCS Scholarship	\$15K (USD)
2010-2013	NSF Graduate Research Fellowship	\$120K (USD)
2012	COAST Travel Award	\$1.5K (USD)
2012	COAST Graduate Student Award	\$3K (USD)
2011	The Next Young WIST to Watch. AWIS Student Scholarship	\$1K (USD)
2011	SETAC-ACS Student Talk Award	\$1.5K (USD)

RESEARCH GRANTS

2020-2024	NSERC CaPSA	\$1M
2021-2024	Human Frontiers in Science Program	\$1.6M
2020-2022	ECCC – IKPP	\$145K
2020-2021	Northern Contaminants Program	\$36K
2020-2023	Department of Fisheries and Oceans	\$210K
2020	Canadian Plastics Industry Association	\$12K
2020-2021	Ontario Ministry of the Environment, Parks and Conservation	\$23K
2020-2021	Southern California Coastal Water Research Project	\$200K
2020	NSERC PromoScience	\$50K
2020-2023	PortsToronto	\$150K
2020-2021	Loblaws Foundation	\$175K
2019-2020	Ocean Conservancy	\$25K (USD)
2019-2021	Georgia Aquarium	\$80K (USD)
2019-2021	XSeed Grant from UofT Arts and Science and Engineering	\$120K
2019-2020	Environment and Climate Change Canada, Great Lakes	\$25K
2019-2020	Environment and Climate Change Canada, Trash Team	\$125K
2018-2021	Georgian Bay Forever	\$22K
2018-2019	Ocean Conservancy	\$15K (USD)
2019-2020	National Geographic	\$31K (USD)
2018-2019	NSERC Engage	\$25K
2018-2022	NSERC Discovery	\$165K
2018-2019	SESYNC Pursuit, Co-PI: M. Barnes	\$125K (USD)
2018	NCP Microplastics in the Canadian Arctic	\$10K
2018-2019	San Francisco Estuary Institute (Mussels)	\$19K (USD)
2018-2020	Hoover Foundation	\$58K (USD)
2017-2020	ECCC, Microplastics in Great Lakes Watersheds	\$90K
2017-2020	NSERC Strategic Project Grant, Co-PI: D. Sinton	\$645K
2017-2020	DFO, NCAG, Co-PI: M. Diamond	\$220K

2017	5Gyres	\$20K (USD)
2017	Ocean Conservancy	\$15K (USD)
2017-2020	San Francisco Estuary Institute (Microplastics)	\$142K (USD)
2017-2020	MOECC	\$105K
2017-2020	MOECC	\$130K
2014	UOIP Seed Grant UC Davis, Co-PI: S. J. Teh,	\$10K (USD)
2013-2015	NOAA FY2013 Marine Debris Program, Co-PI: S. J. Teh	\$200K (USD)
2011-2013	EPA Superfund Region 9/Marine Debris Program	\$200K (USD)
2010	Kickstarter Crowd-sourced Funding	\$1.2K (USD)
2010	PADI Foundation Grant	\$7K (USD)
2010-11	SoCal SETAC Research Grant	\$1.5K (USD)

TEACHING

COURSES

2019-present	Applied Aquatic Ecology, grad level
2019-present	Biodiversity in the City, EEB197
2017-present	Ecosystems and the Human Footprint, EEB208H1
2008-2009	San Diego State University, Biology Lab 100

WORKSHOPS

2019	Toronto Science Policy Network, Making Your Work Relevant for Policy
2018	Canadian Society of Ecology and Evolution, Science Communication
2018	NACCB, Mentor/Mentee Workshop
2015-present	University of Toronto, St. George, Science Communication
2016	University of Toronto, Scarborough, Science Communication
2016	University of Toronto, Mississauga, Science Communication
2015	California EPA, Science Communication
2012	University of California, Davis, NSF GRFP Writing

INDIVIDUAL LECTURES

2020	University of Toronto, Science and Media
2019	University of Queens, Environmental Science and Policy
2016	University of Toronto, Mississauga, Science and Society
2016	York University, Resource Management
2015	University of Texas, Austin, Environmental Science Course
2015	University of California, Davis, Communication Beyond Academia
2014	University of California, Davis, Environmental Science and Policy
2013-2014	University of California, Davis, Ecotoxicology

ADVISING

POSTDOCTORAL

2017-2019 Anna Kolomijeca (Co-Supervisor)
2018-2019 Shelir Ebrahimi (Co-Supervisor)
2018-2020 Stephanie Borrelle
2019-present Anna O'Brian (Co-Supervisor)
2019-present Ludovic Hermabesierre
2019-present Leah Chibwe
2020-present Rafaela Gutierrez
2021-present Wilson Ramirez-Duarte
2021-present Garth Covernton

PhD

2017-present Lisa Erdle
2017-present Kennedy Bucci
2018-present Bonnie Hamilton
2018-present Rachel Giles
2018-present Samantha Athey (Co-Supervisor)
2019-present Xia Zhu
2021-present Eden Hataley

MSc

2014-2016 Heather Richard (Co-Supervisor)
2017-2019 Xia Zhu
2017-2019 Joel Kim
2018-2020 Clara Thaysen

UNDERGRADUATE THESIS

2016-2017 Monina Fe
2016-2018 Clara Thaysen (CGCS and NSERC USRA Fellowships)
2017-2018 Edie Guo (CGCS Fellowship)
2017-2020 Lara Werbowski (NSERC USRA Fellowship)
2017-2018 Jack Lin (Co-Supervisor)
2017-2020 Jacqueline Bikker
2017-2019 Aimee Huntington
2018-2019 Brenda Lim
2017-present Hayley McIlwraith
2018-2020 Annissa Ho
2018-present Cassandra Sherlock
2018-2019 Natasha Klasios
2018-2019 Cole Brookson
2018-2019 Antonino Calarco

2018-2019	Samantha Santoro
2018-2019	Ashima Kaura
2018-present	Arielle Earn
2018-2019	Natasha Druric
2018-2019	Tsz Hung
2019-2020	Anna Lisa
2019-present	Anthony Carrozzi
2019-2020	Keira Engelin
2019-2020	Miguel Felismino
2019-2020	Tina Wu
2018-present	Dorsa Parto
2020-present	Sharon Quan
2020-present	Madeleine Milne
2020-present	Johny Wang
2021-present	Gloria Gao
2021-present	Emilie Nero
2021-present	Elli Hung
2021-present	Mira Gosch

UNDERGRADUATE WORK-STUDY

2016-2017	Matthew Tulio
2018-2019	Antonino Calarco
2018-present	Lauren Ead
2018-2020	Tina Wu
2018-2019	Asma Musa
2020-present	Madeleine Milne
2020-present	Alishba Afaq

UNDERGRADUATE TECH/VOLUNTEER

2018-present	Maheen Arshad
2019-2020	Victoria Shelton
2020-2021	Jeanne Micheilin

SERVICE

DEPARTMENTAL

2019-2020	Proceeding Through the Ranks Committee
2019-present	Vision Committee
2018-2019	Graduate Admissions
2017-present	Atwood Committee
2017-2018	Undergraduate Committee

EXTERNAL

2021-present Massey Senior Fellow, U of Toronto
2019-present Guest Editor Applied Spectroscopy
2014-present Editorial Board Member, Science of the Total Environment
2013-present Scientific Advisor, Trash Free Seas Alliance, Ocean Conservancy
2010-present 5Gyres Science Advisory Board

REFEREE ACTIVITIES

Chemosphere; Comparative Biochemistry and Physiology; Current Biology; DEFRA; Ecological Applications; Environmental Chemistry; Environmental Science and Technology; Environmental Science and Technology Letters; Environment International; Environmental Pollution; Environmental Research; Environmental Toxicology and Chemistry; Estuarine, Coastal and Shelf Sciences; Frontiers in Ecology and Environment; Global Change Biology; Great Lakes Research; Marine Environmental Research; Marine Pollution Bulletin; Nature; Nature Nano; Nature Geosciences; Nature Ecology and Evolution; PLOS ONE; PLOS Biology; Proc B; PNAS; Science; Science Advances; Science of the Total Environment; Scientific Reports; TREE

PRESENTATIONS

SEMINARS

2021 BASF, US
2021 North Carolina State University, US
2021 University of Victoria, BC, Canada
2021 Dalhousie University, NS, Canada
2020 York University, Toronto, ON, Canada
2020 Experimental Lakes Area, Ontario, Canada
2020 NAS Roger Revelle Lecture, Washington DC, USA
2019 University of Guelph, Guelph, ON, Canada
2019 Ryerson University, Toronto, ON, Canada
2019 Queens University, Kingston, ON, Canada
2019 Saint Louis University, St Louis, MO, USA
2018 UC Riverside, Environmental Science, Riverside, CA, USA
2018 Southern California Coastal Water Research Project, Costa Mesa, CA, USA
2018 McGill University, Organismal Biology, Montreal, QC, Canada
2018 University of Michigan, SEAS, Ann Arbor, MI, USA
2018 Univ. of Toronto Scarborough, Biology, Scarborough, ON, Canada
2018 Univ. of Toronto Mississauga, Geography, Mississauga, ON, Canada
2018 McMaster University, Biology, Hamilton, ON, Canada
2017 Univ. of Toronto St. George, EEB, Toronto, ON, Canada
2015 Virginia Institute of Marine Science, Gloucester Point, VA, USA
2015 Bodega Bay Marine Lab, Bodega Bay, CA, USA
2015 Ministry of the Environment, Toronto, ON, Canada

2015 *University of Texas Austin, Hydrology, Austin, TX, USA*
2015 *UC Davis, Pharmacology and Toxicology, Davis, CA, USA*
2014 *Heriot-Watt University, Edinburgh, Scotland*
2013 *Department of Toxic Substances Control, Berkeley, CA, USA*
2009 *Scripps Institution of Oceanography, San Diego, CA, USA*

CONFERENCE PRESENTATIONS (ORAL) *Invited; **Invited Plenary

2021 **Emerging Contaminants Workshop, Sept 2021
2020 * Woods Hole Conference on Microplastics. October 2019.
2019 *AAAS Meeting, Washington DC, USA
2019 *Zero Waste Conference, Vancouver, B.C., Canada
2018 *Society for Conservation Biology, Toronto, ON, Canada*
2018 **Best Brains Exchange on Microplastics, CIHR & ECCC, Ottawa, CA.
2018 **Gordon Conference, Environment (Water), New Hampshire, USA
2018 **6th International Marine Debris Conference, San Diego, CA, USA
2018 *6th International Marine Debris Conference, San Diego, CA, USA
2018 6th International Marine Debris Conference, San Diego, CA, USA
2017 **PICES, Vladivostok, Russia
2017 *Japanese Fisheries Society Meeting, Tokyo, Japan
2016 **Our Ocean, US State Department, Washington DC, USA
2016 MICRO2016, Lanzarote, Spain
2015 *Society for Conservation Biology, Montpellier, France*
2015 *GYRE Symposium, Atlanta, GA, USA
2014 *SCB International Marine Conservation Congress, Glasgow, Scotland*
2014 *Monterey Bay Symposium, Monterey, CA, USA
2014 **CWEA Annual Conference, Santa Clara, CA, USA
2013 SETAC North America, Nashville, TN, USA
2012 SETAC North America, Long Beach, CA, USA
2012 *American Chemical Society National Conference, Philadelphia, PA, USA*
2012 *Ecological Society of America National Conference, Portland, OR, USA
2012 **CWEA Annual Conference, Sacramento, CA, USA
2012 *CWEA Annual Conference, Sacramento, CA, USA
2011 SETAC North America, Boston, MA, USA
2011 *Women in Science and Technology, San Diego, CA, USA
2011 So Cal SETAC, Huntington Beach, CA, USA
2011 5th International Marine Debris Conference, Honolulu, HI, USA
2010 *Marine Environmental Problems Symposium, Matsuyama, Japan
2008 *Western Society of Naturalists Annual Meeting, Vancouver, BC, Canada*

CONFERENCE PRESENTATIONS (POSTER) *Invited

2014 SETAC, Vancouver, BC, Canada
2012 *American Chemistry Society, San Diego, CA, USA*
2011 *CSU COAST Faculty-Student Poster Reception, Long Beach, CA, USA

CONFERENCE SESSION CHAIR

2018	<i>6th International Marine Debris Conference, San Diego, CA, USA</i>
2018	<i>6th International Marine Debris Conference, San Diego, CA, USA</i>
2016	SETAC, Orlando, FL, USA
2014	SETAC, Vancouver, BC, Canada
2012	SETAC, Long Beach, CA, USA

CONFERENCE PLANNING COMMITTEE

2018	<i>North American Congress for Conservation Biology, Toronto, ON, Canada</i>
2019	SETAC, Toronto, ON, Canada
2020	Arctic Plastics, Iceland

PROFESSIONAL MEMBERSHIPS

2015-present	Member, American Society of Limnology and Oceanography
2014-present	Member, Society for Conservation Biology
2010-present	Member, Society of Environmental Toxicology and Chemistry (SETAC)

PROFESSIONAL WORKING GROUPS

2020-present	Microplastics Health Effects Working Group (Co-Lead)
2019-present	Microplastics Methods Evaluation Study (Co-Lead)
2020-2021	Ocean Protection Council Microplastics Working Group
2019-present	AMAP Group on Plastics
2018-present	SETAC Interest Group on Microplastics (Co-Chair)
2018-2020	SESYNC Plastic Emissions Working Group (Co-PI)
2016-2017	FAO Plastic pollution in fisheries and aquaculture
2016-2017	GESAMP Microplastics in the environment (Co-chair)
2012-2014	NCEAS (National Center for Ecological Analysis and Synthesis)

PROFESSIONAL DEVELOPMENT

2016	Media Training, Intermedia Communications
2016	Policy Training, Fmr. US Forest Service Chief Mike Dombeck (Clinton Admin)
2015	Storytelling Training, Intermedia Communications
2015	Facilitation Training, Dovetail Consulting
2014	Leadership Training, Dr. Maureen Ryan

SELECTED OUTREACH

2021 - present	International Trash Trap Network (Co-Lead)
2020	Waste LITTErature for Waste LITTEracy virtual outreach series
2019 – present	Co-organizer, “Urban Litter Challenge” public litter cleanup event
2018 - present	Organizer, “Clean Up The Don” public litter cleanup event
2018	Speaker, “Lake Ontario Evenings” hosted by TRCA
2018	Panelist, film screening of “A Plastic Ocean”
2018	Panelist, film screening of “Smog of the Sea”
2017-present	Co-founder, Co-director, U of T Trash Team. With co-director Susan Debreceni, I created a team of students and postdocs, government agency stakeholders and relevant NGOs, to bring trash interception devices (i.e., SeaBins) to Toronto’s waterfront, lead community outreach events and run school programming around waste literacy.
2017	Participant, Women in Science Group, EEB, UofT
2018-present	Board Member, Heirs to Our Ocean (NGO)
2015	Speaker, Biosphere 2 Earth Day, Tucson, AZ, USA
2015	Ocean Plastic Teacher Training, Speaker, Farallones Marine Sanctuary
2014-2015	Co-founder, WiSci, Women in Science Group, UC Davis
2014	Session Leader, Ocean Plastic Teacher Training, Monterey Bay Aquarium
2014	Webinar Speaker, Oceans of Plastic: from Science to Solutions, 5Gyres
2013	Content Advisor, “Plastics, Ahoy!” Children’s book
2010-2014	Guest Blogger, DeepSea News
2013	Speaker, Community Outreach Academy
2013	Organizer, VetMed 3B Open House
2012	Panelist, Plastics Pollution Panel, Santa Monica College
2012	Speaker, “So you think you can be a marine biologist?”, SDSU
2011-2012	Seminar Coordinator, SDSU Marine Ecology & Biology Student Association
2011	Speaker, Pacific Ridge School Assembly
2011	Advisor, Rise Above Plastics Campaign, San Diego Surfrider
2011	Presenter, Algalita Youth Summit
2010-2011	Presenter, Girls in Ocean Science
2011-2017	Board of Directors, New Ocean Blue (NGO)
2010	Guest Writer, Scripps Magazine

SELECTED POLICY EXPERIENCE

2020	Reviewer of definition of microplastics for State of California
2020	Reviewer of the Canadian Scientific Assessment on Plastic Pollution
2019	Expert Witness, House Appropriations Committee, D.C.

2019	Speaker at Minister McKenna's announcement of Canada's new plastics strategy
2019	Speaker and Participant at G7 Microplastics Science Meeting, D.C.
2018	Speaker and Participant, Environmental Ministers Meeting, Canada
2018	Speaker and Participant, APEC Meeting on Marine Litter, Busan, S Korea
2018	Participant, United Nations Ad-Hoc Working Group on Marine Litter, UNE Headquarters
2018	Expert Witness, Microfiber Bill in Connecticut
2017	Speaker, A World of Blue. Annual Parliamentary Hearing at UN Headquarters
2016	Speaker, Our Oceans Conference hosted by US Secretary of State Kerry
2015	Expert Witness, AB888 (CA microbead bill)
2015	Policy Brief Published through SCB: Banning Microbeads from Personal Care Products, 1 st author
2014	Reviewer, Global Oceans Assessment, United Nations
2014	Speaker, National Academies, Discussion Forum on Microplastics
2012	Speaker, USEPA Region 9, Border Meeting
2010	Participant, Ocean Conservancy, Summit on Marine Debris, Washington, DC
2010	Speaker, COMPASS Meetings, Sacramento, CA
2007	Participant, American Chemistry Council Marine Debris, La Jolla, CA

SELECTED MEDIA

My work or expertise is featured in news media (print, radio, online or TV) several times per month. Original coverage in high profile publications includes:

- 60 Minutes
- The Atlantic
- BBC
- CBC
- CBS
- Chemical and Engineering News
- The Chicago Tribune
- Daily Mail
- The Guardian
- Huffington Post
- Los Angeles Times
- National Geographic
- National Post
- National Public Radio
- Nature News
- Newsweek
- New Scientist
- New York Times

PBS
PNAS News
Popular Science
Public Radio International
Scientific American
Smithsonian
Time Magazine
The Washington Post