

Environmental Science Water Research & Technology

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IN THIS ISSUE

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Xuyong Li *et al.*,
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See Robert Furén *et al.*,
pp. 3158–3173.
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Technol.*, 2023, 9, 3158.

THEMED ISSUE ARTICLES

EDITORIAL

3091

Urban stormwater management

Luca Vezzaro,* Nathalie Gilbert, Lian Lundy,
María Nariné Torres Cajiao and Kefeng Zhang

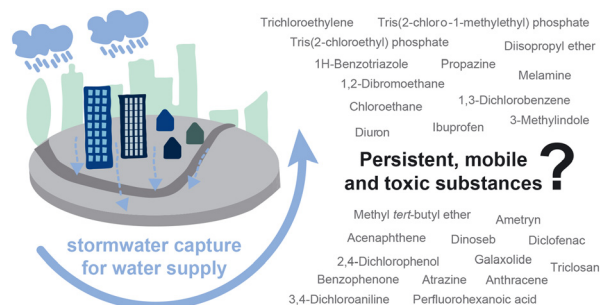


FRT

3094

Urban stormwater capture for water supply: look out for persistent, mobile and toxic substances

Lena Mutzner,* Kefeng Zhang, Richard G. Luthy,
Hans Peter H. Arp and Stephanie Spahr*



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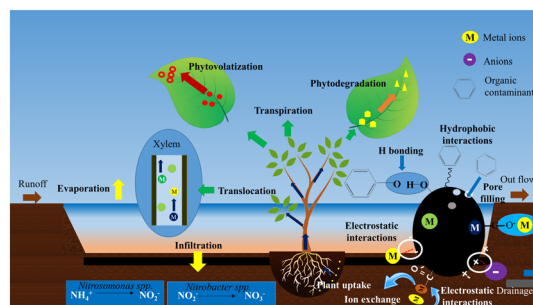


CRITICAL REVIEWS

3103

Biofilters and bioretention systems: the role of biochar in the blue-green city concept for stormwater management

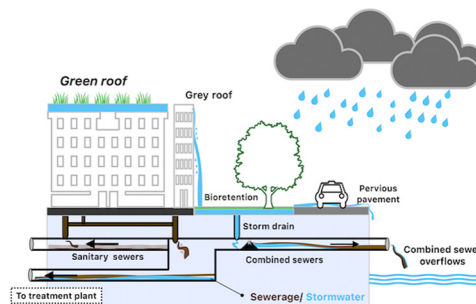
K. S. D. Premarathna, Jayanta Kumar Biswas, Manish Kumar, Sunita Varjani, Bede Mickan, Pau Loke Show, Sie Yon Lau, Luis A. B. Novo and Meththika Vithanage*



3120

Modeling the hydrological benefits of green roof systems: applications and future needs

Zhaokai Dong, Daniel J. Bain, Kimberly A. Gray, Murat Akcakaya and Carla Ng*

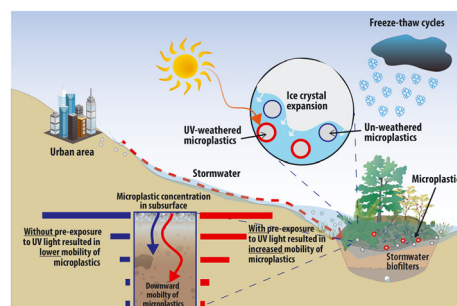


COMMUNICATION

3136

UV exposure to PET microplastics increases their downward mobility in stormwater biofilters undergoing freeze-thaw cycles

Haley J. Gunther, Tonoy K. Das, Jamie Leonard, Vera S. Koutnik, Lea A. El Rassi, Zilong Tang and Sanjay K. Mohanty*

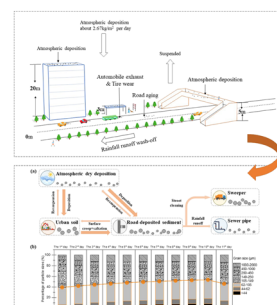


PAPERS

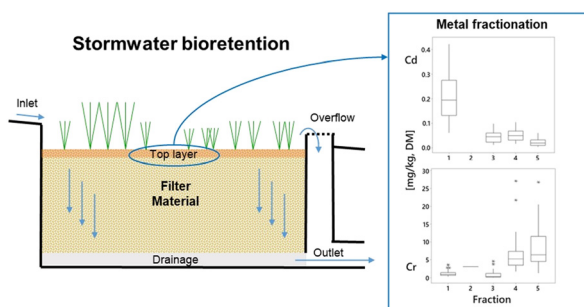
3146

Role of height and position in the vertical distribution pattern of urban surface-deposited sediments and associated heavy metals

Hongtao Zhao,* Tian Huang, Jingjun Su and Xuyong Li*



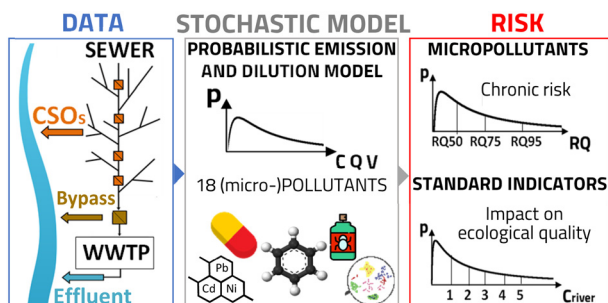
3158



Concentration, distribution, and fractionation of metals in the filter material of 29 bioretention facilities: a field study

Robert Furén,* Heléne Österlund, Ryan J. Winston, R. Andrew Tirpak, Jay D. Dorsey, Joseph Smith, Maria Viklander and Godecke-Tobias Blecken

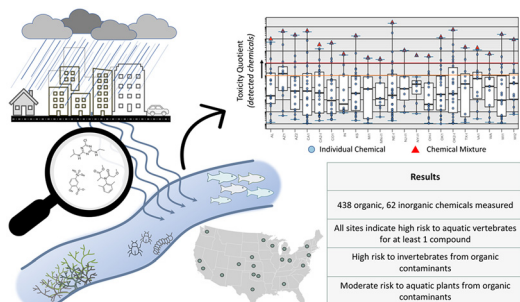
3174



A stochastic approach for assessing the chronic environmental risk generated by wet-weather events from integrated urban wastewater systems

Jessica Ianes, Beatrice Cantoni, Enrico Ulisse Remigi, Fabio Polesel, Luca Vezzaro and Manuela Antonelli*

3191

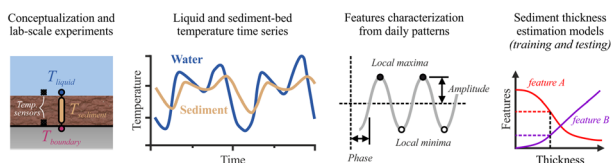


Predicted aquatic exposure effects from a national urban stormwater study

Paul M. Bradley,* Kristin M. Romanok, Kelly L. Smalling, Jason R. Masoner, Dana W. Kolpin and Stephanie E. Gordon

3200

Heat transfer analysis and Temperature measurements → Monitoring urban drainage sediment accumulation



Towards urban drainage sediment accumulation monitoring using temperature sensors

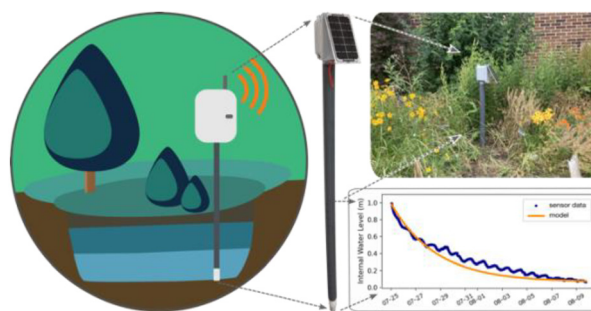
Manuel Regueiro-Picallo,* Jose Anta, Acacia Naves, Alejandro Figueroa and Jörg Rieckermann



3213

Measuring city-scale green infrastructure drawdown dynamics using internet-connected sensors in Detroit

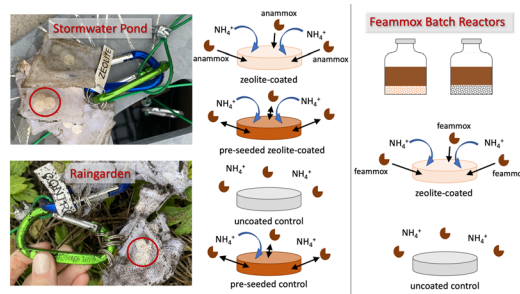
Brooke E. Mason,* Jacquelyn Schmidt and Branko Kerkez



3227

Stormwater applications of zeolite-coated biofilm carriers for ammonium removal with possible applications to PFAS biotransformation

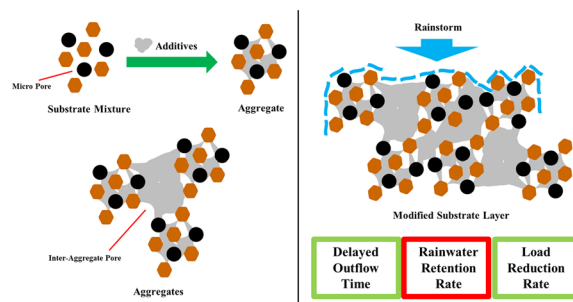
Anndee L. Huff Chester,* Noah Gallagher, Shan Huang, Peter R. Jaffé and Paige J. Novak*



3243

Comparison of rainwater management performance of modified extensive green roof substrate layer with different additives in rainstorm events

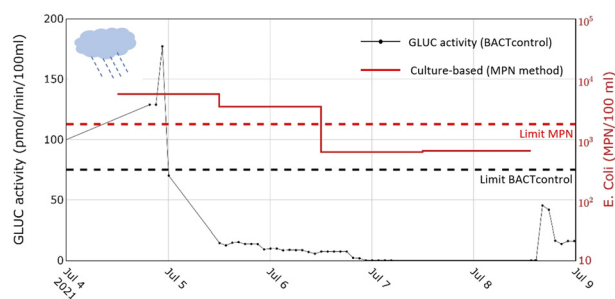
Yiming Fei, Chen Xu, Shujiang Miao, Dafang Fu and Junyu Zhang*



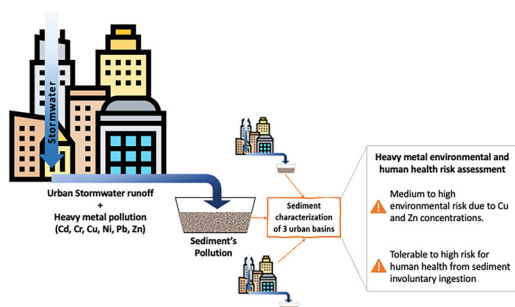
3257

The potential of near real-time monitoring of β -D-glucuronidase activity to establish effective warning systems in urban recreational waters

Konstantinos F. Makris,* Bas Hoefelijzers, Laura Seelen, Remy Schilperoort and Jeroen G. Langeveld



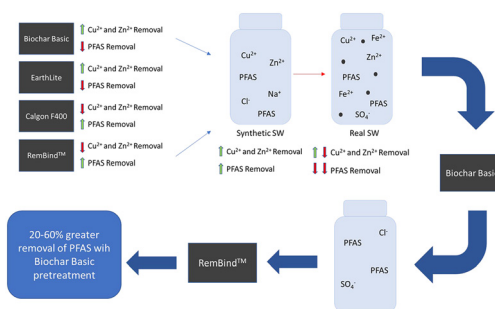
3269



Urban stormwater sediment risk assessment from drainage structures in Bogotá, Colombia

María Alejandra Pimiento,* Verónica Duque and Andres Torres

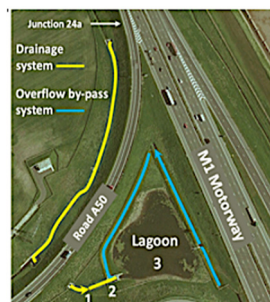
3281



Evaluation of sorbents and matrix effects for treating heavy metals and per- and polyfluoroalkyl substances as co-contaminants in stormwater

Bethany A. Parker, Casey A. Kanalos, Tyler S. Radniecki, Staci L. Massey Simonich and Jennifer A. Field*

3290



Metal distribution in first flush in highway runoff of one of the busiest motorway junctions in the UK

Julia Zakharova,* Hamid Pouran and Andrew Wheatley

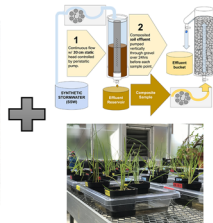
3302

Stormwater Subsurface Gravel Wetlands

2-year field study



Lab studies



Results:

- ✓ Peak flow & volume reductions
- ✗ Poor P removal driven by P export from soil layer
- ✗ Negligible impacts on chloride transport
- ✗ Cl⁻ suppression of growth for 1 of 2 plant species tested

Stormwater subsurface gravel wetland hydraulics, phosphorus retention, and chloride dynamics in cold climates

Eric D. Roy,* Andres O. Torizzo, Marcos L. Kubow, Nisha C. Nadkarni, Thomas M. Adler, Madeline F. Yandow, Finn A. Bondeson, Adrian R. H. Wiegman and Donna M. Rizzo



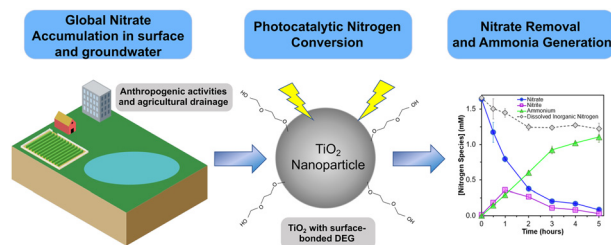
REGULAR ARTICLES

COMMUNICATION

3318

Photochemical conversion of nitrate to ammonium ions by a newly developed photo-reductive titanium dioxide catalyst: implications on nitrogen recovery

Andrew Sanchez, Zuyang Ye, Yadong Yin and Haizhou Liu*

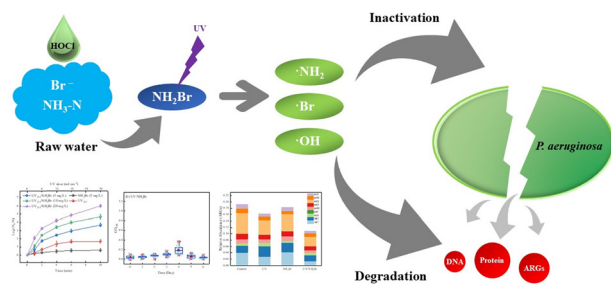


PAPERS

3325

Unveiling a potential disinfection process in ultraviolet treatment of bromine-containing water: inactivation of *P. aeruginosa* in a UV/ NH_2Br system

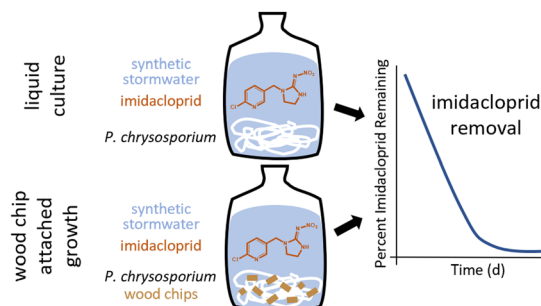
Shumin Zhu, Jingxuan Yang, Yangtao Wu, Da Sheng,* Lingjun Bu and Shiqing Zhou



3333

Degradation of imidacloprid by *Phanerothelia chrysosporium* on wood chips for stormwater treatment

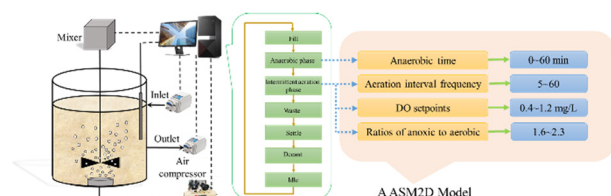
Leah M. M. Weaver, Nancy Lee Alexander, Marc A. Cubeta, Detlef R. U. Knappe and Tarek N. Aziz*



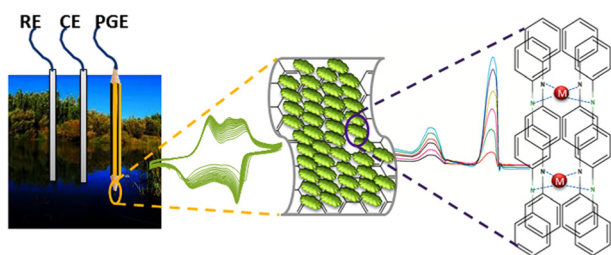
3344

Functional guild dynamics in a single-sludge shortcut nitrogen and phosphorus removal reactor: a modeling study

Quan Yuan, Zhen Jia, Paul Roots, Fabrizio Sabba and George Wells*



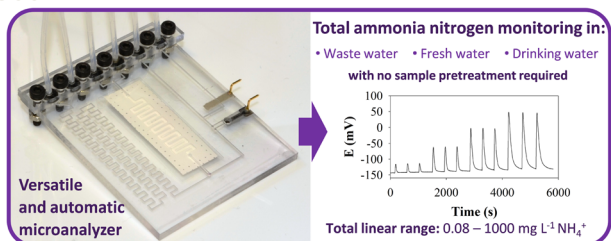
3355



Simultaneous determination of Cd and Pb in the environment using a pencil graphite electrode modified with polyaniline/graphene oxide nanocomposite

Sima Pourbeyram,* Soghra Fathalipour, Bahaaldin Rashidzadeh, Hananeh Firuzmand and Behnaz Rahimi

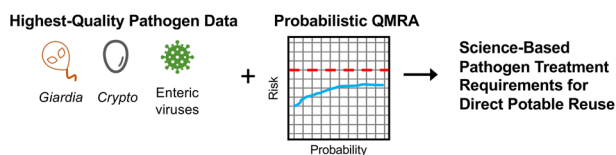
3366



Highly versatile and automated total ammonia nitrogen compact analyzer suitable for different types of water samples

Antonio Calvo-López, Julián Alonso-Chamarro and Mar Puyol*

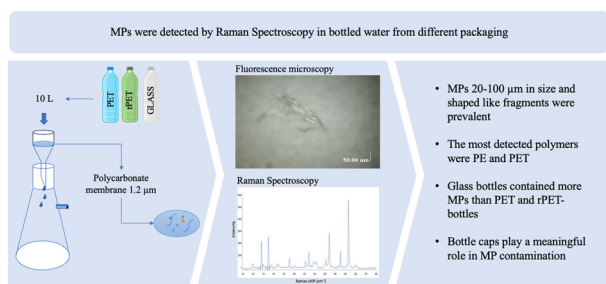
3377



Science-based pathogen treatment requirements for direct potable reuse

Brian M. Pecson,* Anya Kaufmann,* Daniel Gerrity, Charles N. Haas, Edmund Seto, Nicholas J. Ashbolt, Theresa Slifko, Emily Darby and Adam Olivieri

3391



Characterization of microplastics in water bottled in different packaging by Raman spectroscopy

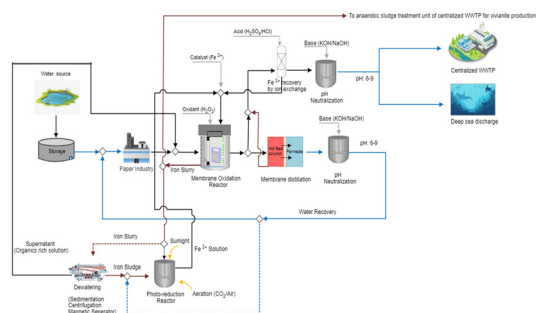
Isabella Gambino, Cosimino Malitesta, Francesco Bagordo, Tiziana Grassi, Alessandra Panico,* Silvia Fraissinet, Antonella De Donno and Giuseppe Egidio De Benedetto



3398

Eco-sustainable paper wastewater management by water-resource recovery and concentrate minimization using a membrane oxidation reactor and membrane distillation system

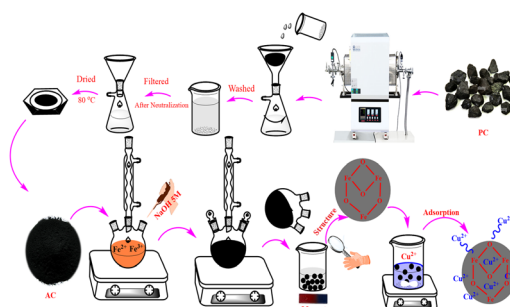
Esra Can Dogan,* Elif Durna Pişkin, Ali Oguzhan Narci, Berna Kiril Mert, Sevgi Topçu Yakın, Tugba Nur Demirözlü, Mine Selin Atasoy and Coskun Aydiner*



3417

Performance improvement of pyrolytic coke by surface modification for the adsorption of copper(II) ions from wastewater

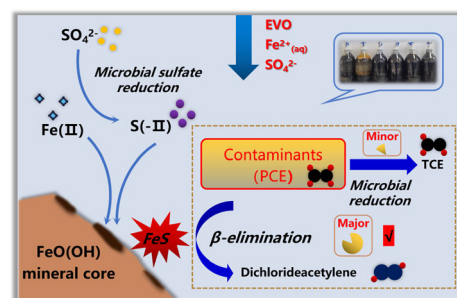
Behrad Barzegar, Seyed Jamaledin Peighambardoust,* Hassan Aghdasinia* and Rauf Foroutan



3435

Effect of enhanced biogeochemical transformation of tetrachloroethylene by EVO-FeSO₄ and its transport characteristics in aquifers

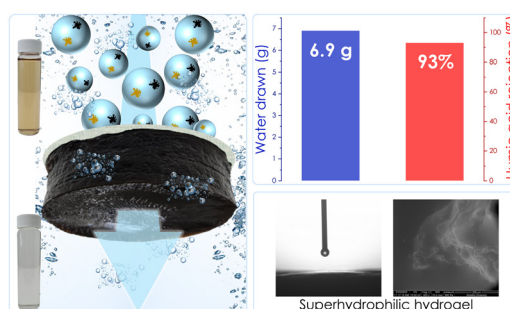
Chen Sun, Minglu Sun, Xue Liang, Yanyang Mo and Jun Dong*

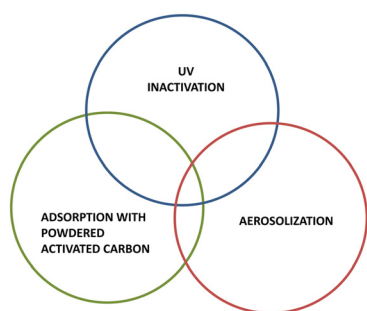


3446

Graphene oxide/alginate/polyacrylate hydrogels as a draw agent for osmosis water purification

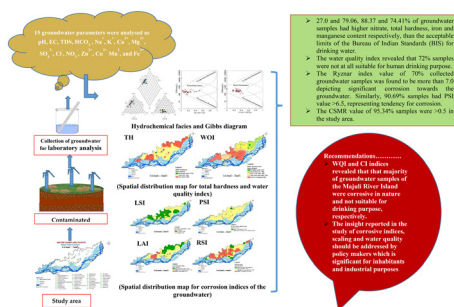
Adetunji Alabi and Linda Zou*





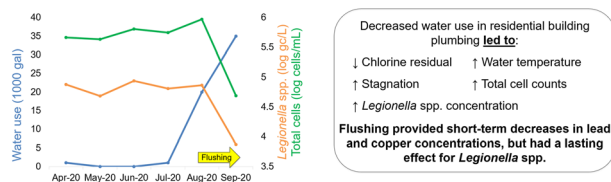
Characterizing *Bacillus globigii* as a *Bacillus anthracis* surrogate for wastewater treatment studies and bioaerosol emissions

Leigh Durden, Kyle Eckhoff, Adam C. Burdsall, Sungmin Youn, Cindy Andújar-Gonzalez, Lubna Abu-Niaaj, Matthew Magnuson and Willie F. Harper Jr.*



Assessment of the hydrogeochemistry of shallow water aquifers using corrosion indices and geospatial techniques in the regions of the Brahmaputra river basin, India

Gulshan Kumar Sharma,* Roomesh Kumar Jena, Pravash Chandra Moharana, Prasenjit Ray, Shakir Ali, Krishna Kumar Mourya and Bachaspati Das



Water quality during extended stagnation and flushing in a college residential hall

Danielle M. Angert, Christian Ley, Kyungyeon Ra, Yoorae Noh, Nadezhda Zyaykina, Elizabeth Montagnino, Ruth Wei, Andrew J. Whelton and Caitlin R. Proctor*

