

# Organic Matter Characterization from sediments of the Tietê and Piracicaba rivers dam (Brazil)



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# SEDIMENTS

Complex and heterogeneous environments

Determining the concentration of toxic metals

Understanding the sediment's ability to accumulate or release contaminants

Biogeochemical processes are involved, influencing the fate of these metals



# THE MAIN MODES OF DISPERSION

I.

Early diagenesis

II.

Natural or anthropogenic resuspension

III.

the diffusive flow at the water-sediment  
interface

# Sediment collection



# Preparo das amostras

69 sediment samples

## Depth of sediment cores

- Station 1: 0 - 48 cm
- Station 2: 0 - 35 cm
- Station 3: 0 - 28 cm
- Station 4: 0 - 67 cm
- Station 5: 0 - 48 cm
- Station 6: 0 - 34 cm
- Station 7: 0 - 59 cm



Freeze-dried



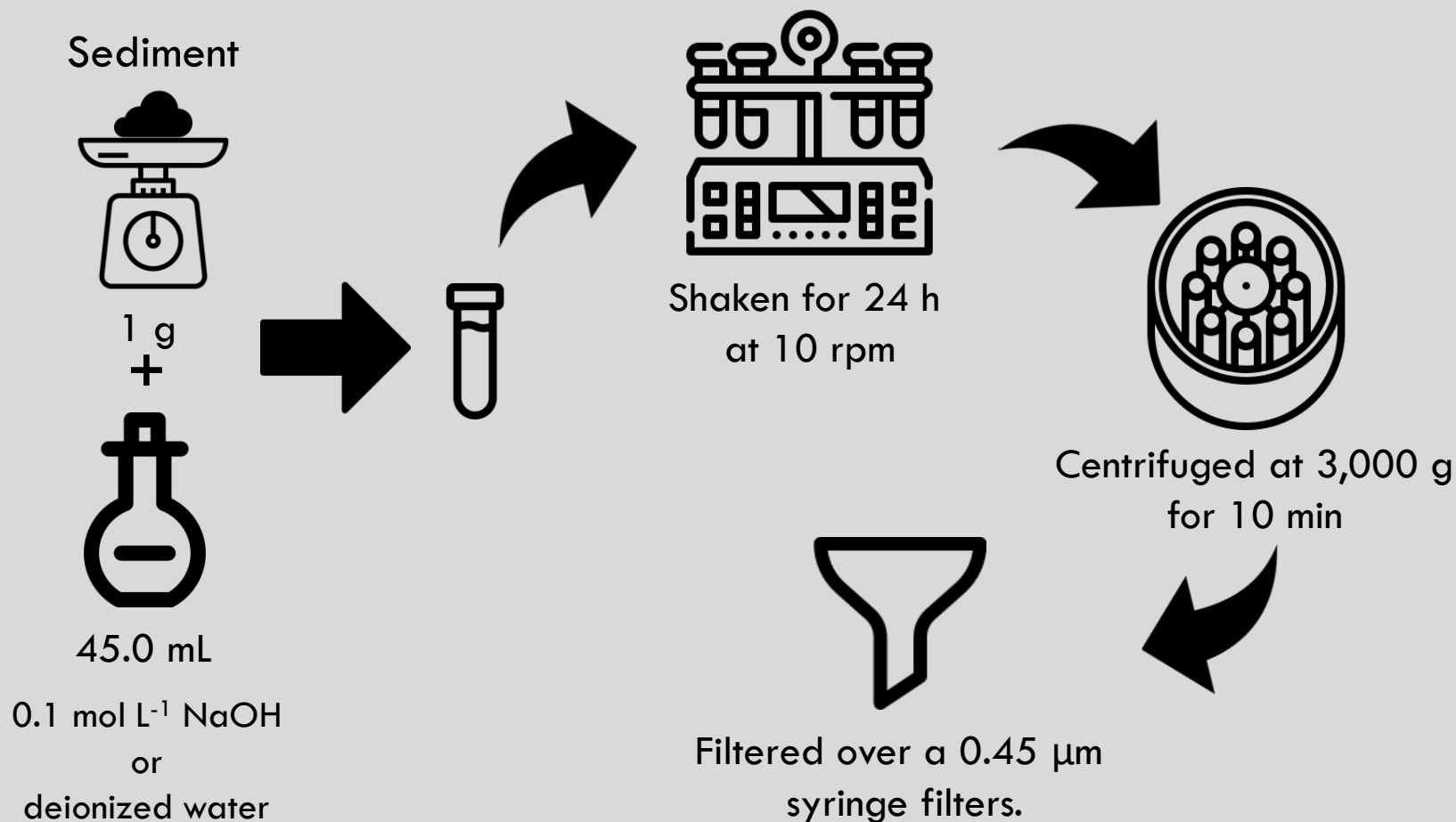
Ground



100-mesh sieve

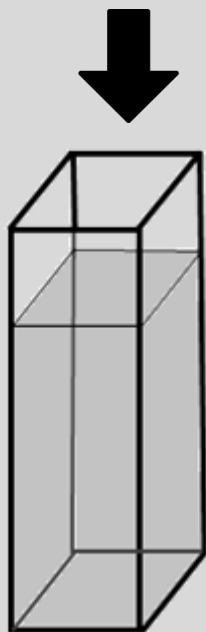
# SedOM extraction

NaOH and deionized water



# Fluorescence in EEM mode

- 1.0 mL of each sample
- 1.0 mL of 0.3 mol L<sup>-1</sup> HEPES
- 1.5 mL of 0.1 mol L<sup>-1</sup> NaClO<sub>4</sub>



## Fluorescence spectra

Scan speed 2400 nm min<sup>-1</sup>

Emission From 250 to 700 nm

Excitation From 200 to 500 nm

Steps 5 nm

Slits of emission 5 nm

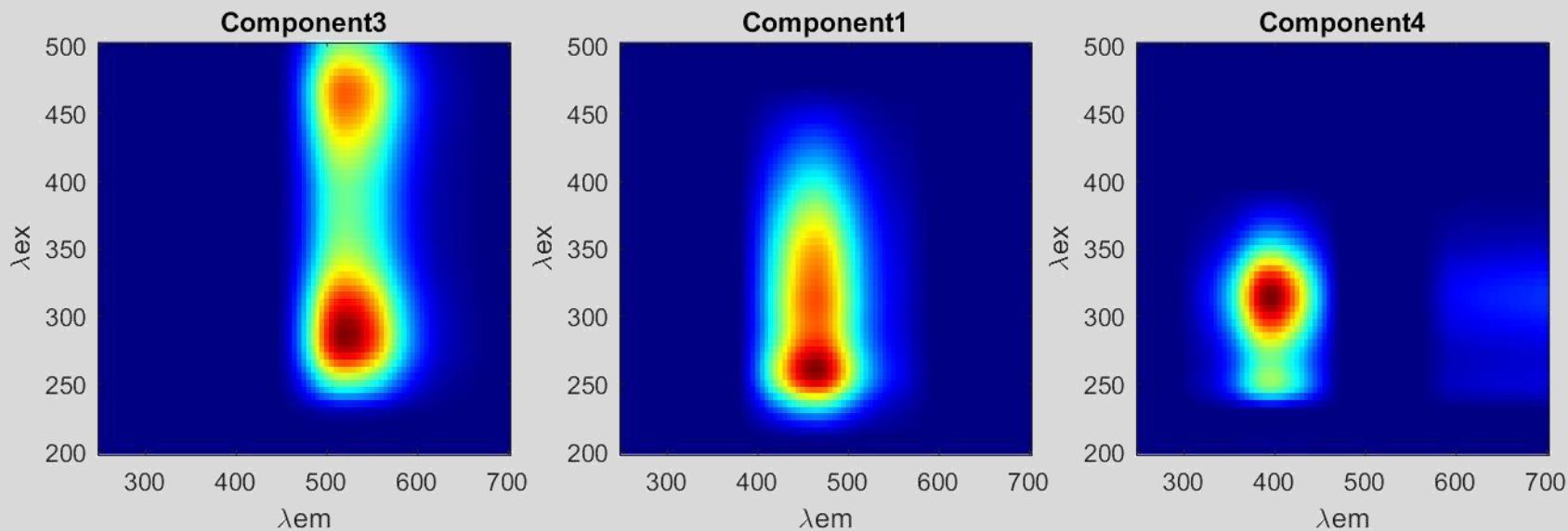
Detector voltage 700 V

## Data processing

PARAFAC  
(PROGMEEF  
software)

Four  
components

CORCONDIA  
of 83.3%



SedOM older, more complex and more humidified

SedOM fresher, simpler and less humidified

# Acknowledgments

