



# EVA S. LINDSTRÖM

1969, SWEDEN

Microbial ecologist known for her research on bacterial metacommunities.

Her research focuses on which factors shape microbial diversity, and how the function of the microbial community in the ecosystem depends on the diversity or community composition. She is a pioneer in the study of bacterial biogeography.

Professor at Department of Ecology and Genetics (Uppsala University, Sweden), and author of more than 60 peer reviewed articles.

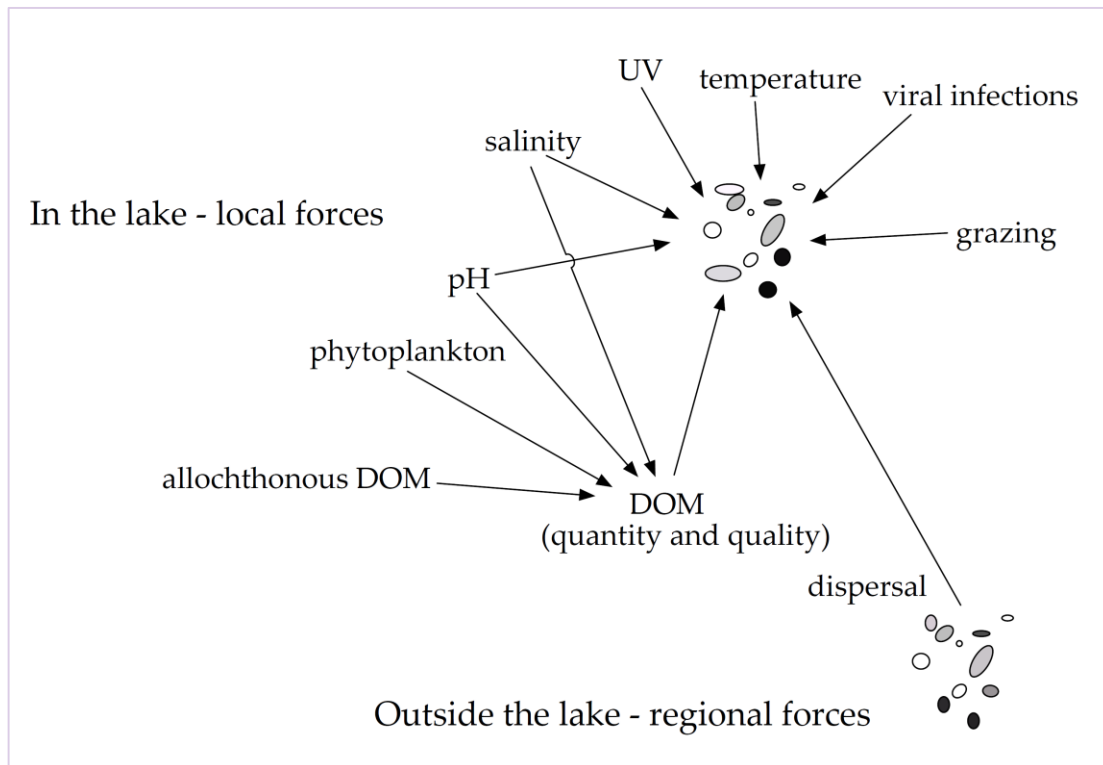
## HERSTORY

Eva mentors young teachers in undergraduate education (both men and women). She is also part of a specific mentoring program for young female scientists in Science and Technology. |

# BACTERIAL BIOGEOGRAPHY

**Biogeography** studies the distribution of organisms across space and time to understand where organisms live, at what abundance, and why. Molecular advances have led to a better understanding of the bacterial diversity and distribution patterns.

Bacterial metacommunities are influenced by **local environmental forces** (environmental filtering and biotic interactions, *ecological* biogeography) and **regional factors** (dispersal-related processes, *historical* biogeography).

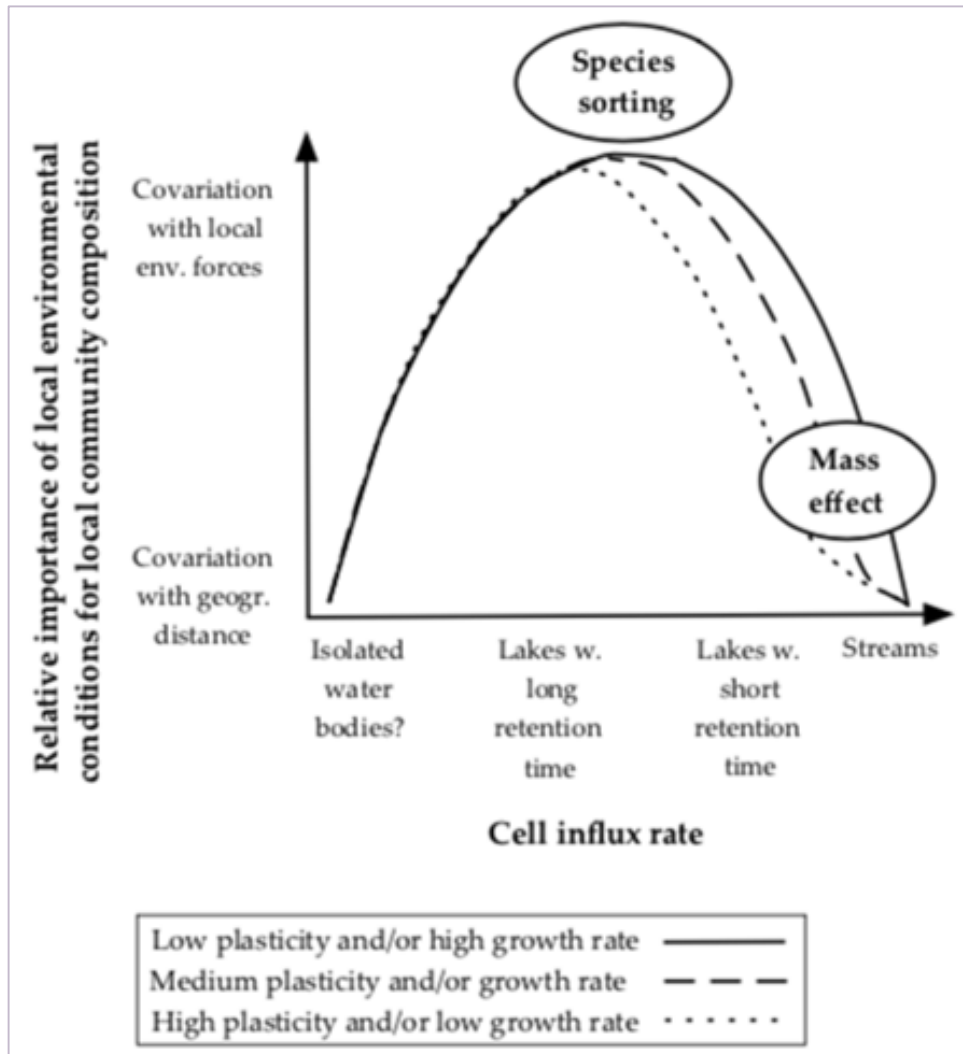


**Example:** Different local forces (biotic and abiotic) and regional forces affecting the bacterial community composition in inland waters.

Jürg B. Logue & Eva S. Lindström.  
(2008). *Freshwater Reviews*.

# LOCAL FORCES DRIVING BACTERIAL DIVERSITY

Environmental filtering and biotic interactions are niche-determining processes that may affect patterns of species diversity and composition.



Eva demonstrated that local environmental variables, as the biota (phytoplankton and zooplankton), temperature, pH, salinity, organic carbon and nutrient content, have an important impact on bacterial community composition.

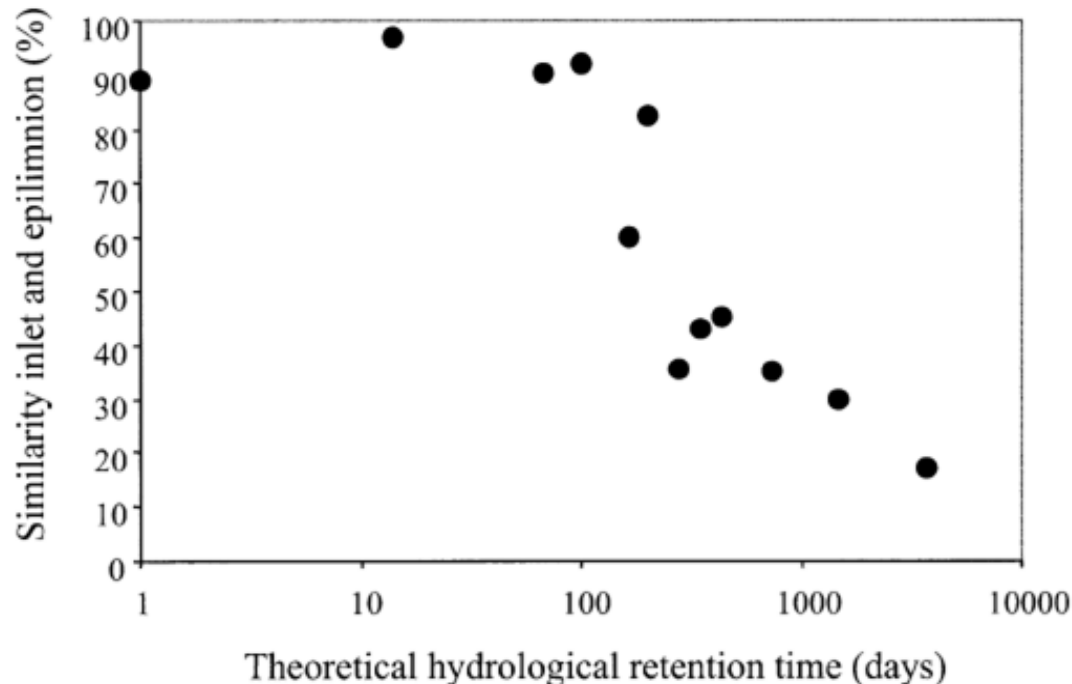
**Example.** Relative importance of local environmental conditions for local bacterial community composition in inland waters, depending on cell influx rate.

Jürg B. Logue & Eva S. Lindström. (2008).  
Freshwater Reviews.

# REGIONAL FACTORS DRIVING BACTERIAL DIVERSITY

Eva demonstrated the importance of regional factors for bacterial communities in lakes, which are those that emphasize the role of dispersal: geographic distance, dispersal barriers, neutral assembly, ...

In lakes with a hydrological retention time up to 200 days, the bacterial community structure was very similar to the community in the inlet stream (i.e., imported cells). In lakes of longer water retention time bacterial community composition seemed to be shaped more by factors within the lakes.



**Example.** Relationship between the hydrological retention time of 12 lakes, and the similarity between the bacteria in the inlet stream and the bacteria in the lake epilimnion.

Eva S. Lindström. et al. (2006).  
*Limnology & Oceanography.*

# RELEVANT CONTRIBUTIONS

**Lindström, E. S.** (1998). Bacterioplankton community composition in a boreal forest lake. *FEMS Microbiol. Ecol.* 27, 163–174.

**Lindström, E. S.**, Forslund, M., Algesten, G. and Bergström, A.-K. (2006). External control of bacterial community structure in lakes, *Limnology and Oceanography*, 51, 339–342.

Logue, J. B., **Lindström, E. S.** (2008). Biogeography of bacterioplankton in inland waters, *Freshwater Reviews*, 1, 99–114.

**Lindström, E. S.**, Langenheder, S. (2012). Local and regional factors influencing bacterial community assembly, *Environmental Microbiology Reports*, 4(1): 1–9.

Logares, R., **Lindström, E. S.**, Langenheder, S., Logue, J. B., Paterson, H., Laybourn-Parry, J., Rengefors, K., Tranvik, L. and Bertilsson, S. (2013). Biogeography of bacterial communities exposed to progressive long-term environmental change, *The ISME Journal*, 7(5): 937–948.

LOOKING  
FOR MORE?

You can find more information about her story and research at:

<https://katalog.uu.se/profile/?id=XZ439>

<https://scholar.google.es/citations?user=5OyboTEAAAAJ&hl=es&oi=ao>