

The logo consists of the lowercase letters 'i3' in a white, sans-serif font, positioned on a blue square background.

**mainz**

Institute for Spatial Information  
and Surveying Technology  
Mainz University of Applied Sciences

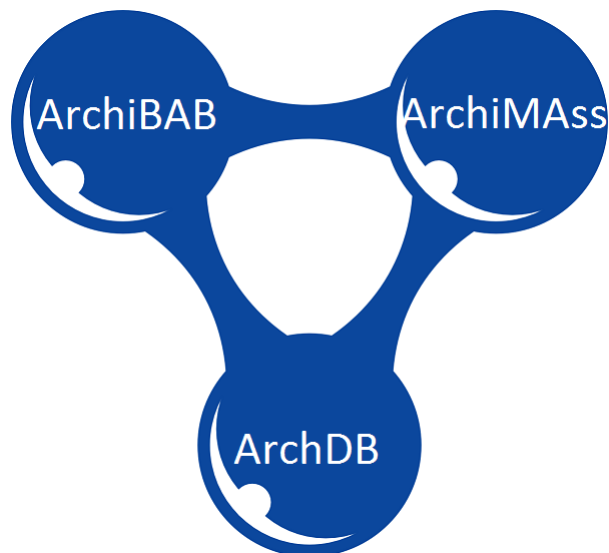
A 3D point cloud visualization of a geographical region, likely a valley or basin, rendered in a light gray color. The terrain is represented by a dense collection of points, showing a central depression and surrounding elevated areas.

# **Toponym Resolution using a learning algorithm in Ancient Upper Mesopotamia**

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Frank Boochs**

# Project TEXTELSEM: Texts, Tells, Semantic



Toponym	Rel. Position	Environment	Population	...
Mama	?	?	?	
Mallanum	West of Harran North of Tuttul	?	Bedouin	
Šurnat	?	sheep, ...	Military	
Šur'um	?	coral, ...	Bedouin	
Harran				
Tuttul				
...				

Toponym	Rel. Position	Environment	Population	...
Quattara	Near Makrisu East of Zahatum	Salt, ...	?	
Magrisu	In the area of Quattara Downstream from Kurda	?	Military	
Makrisu	?	?	Military	
Bušše	?	?	?	
Kurda				
Qattunan				
...				

Position	Kind	Role	Dating	...
LAT: 38.139574 LON: 36.234583	sculptures	?	Middle Bronze Age	
LAT: 40.663967 LON: 36.607215	buildings	?	Late Bronze Age	
LAT: 40.968628 LON: 34.452979	graves	cemetery	Middle Bronze Age	
LAT: 43.978546 LON: 35.381544	clay tablets	fortress	Late Bronze Age	
...				

# Toponym Resolution

Position (ArchDB)	Toponym (ArchiBAB)	Toponym (ArchiMAss)
LAT: 36.359264 LON: 43.151990	Ninet	Ninua
LAT: 36.383543 LON: 38.180287	Till-Abnim	Tilapanu

# Toponym Resolution

Position (ArchDB)	Toponym (ArchiBAB)	Toponym (ArchiMAss)
LAT: 36.359264 LON: 43.151990	Ninet	Ninua
LAT: 36.383543 LON: 38.180287	Till-Abnim	Tilapanu
LAT: 36.647287 LON: 39.498689		Harbe
LAT: 38.138286 LON: 36.232512		
	Purullum	Buralli
	Lada	

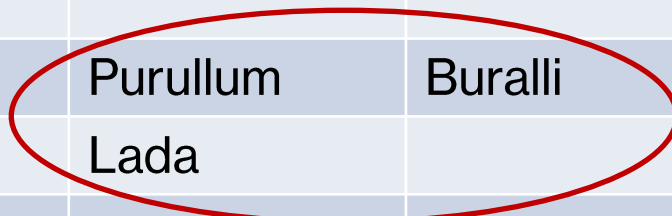
# Resolved Toponyms

Position (ArchDB)	Toponym (ArchiBAB)	Toponym (ArchiMAss)
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# Not-Resolved Toponyms

Position (ArchDB)	Toponym (ArchiBAB)	Toponym (ArchiMAss)
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# Resolved Findspots

Position (ArchDB)	Toponym (ArchiBAB)	Toponym (ArchiMAss)
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# Toponym Disambiguation in Computer Science



**How's the weather in Oxford?**

How's the weather in **Oxford**?

How's the weather in **Oxford**?

- **University in UK**
- **Town in Mississippi, US**
- **County in Ontario, Canada**

**How's the weather in Oxford?**

**I was born in London. I'm studying Digital Humanities.**

- **Town in Mississippi, US**
- **County in Ontario, Canada**



**How's the weather in Oxford?**

**I was born in London. I'm studying Digital Humanities.**

**I'm living in Texas. I want to visit my family in Memphis.**

**- County in Ontario, Canada**

**How's the weather in Oxford?**

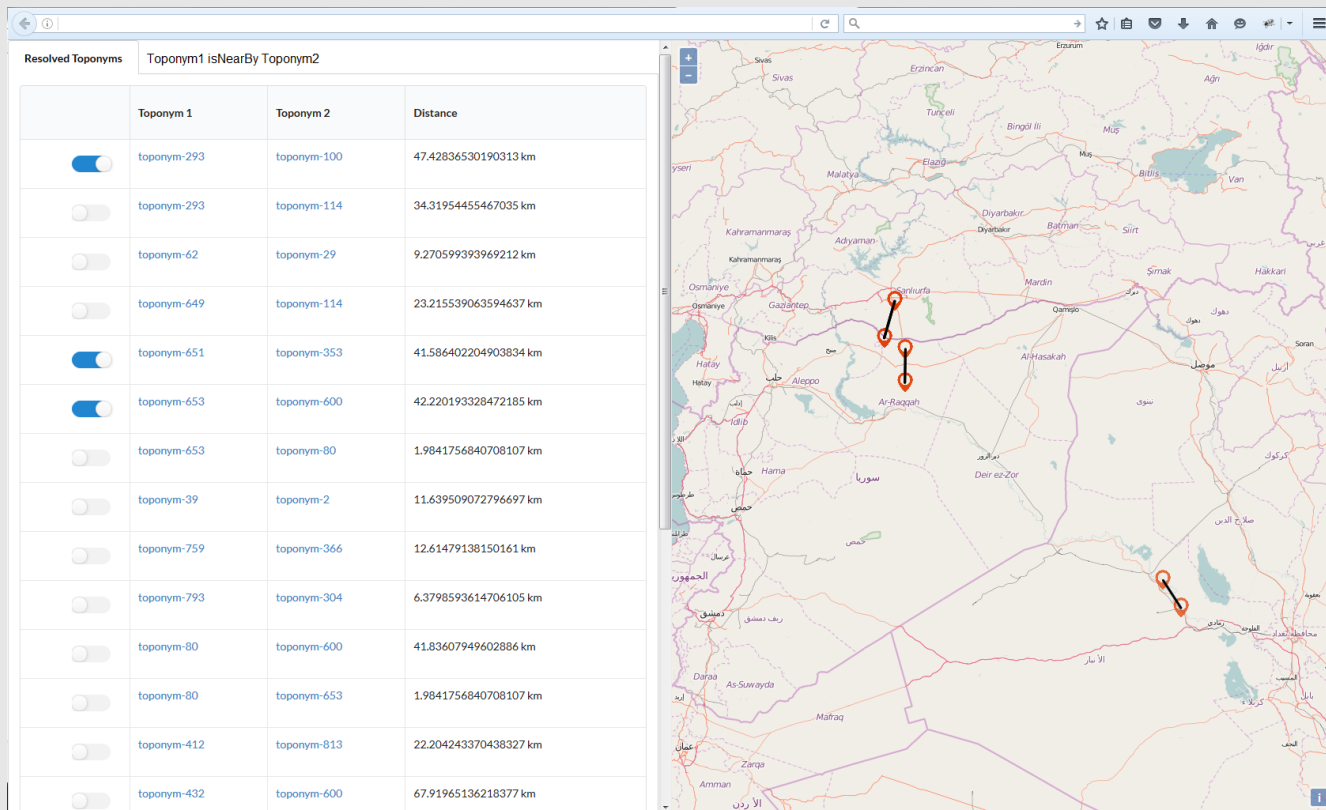
**I was born in London. I'm studying Digital Humanities.**

**I'm living in Texas. I want to visit my family in Memphis.**

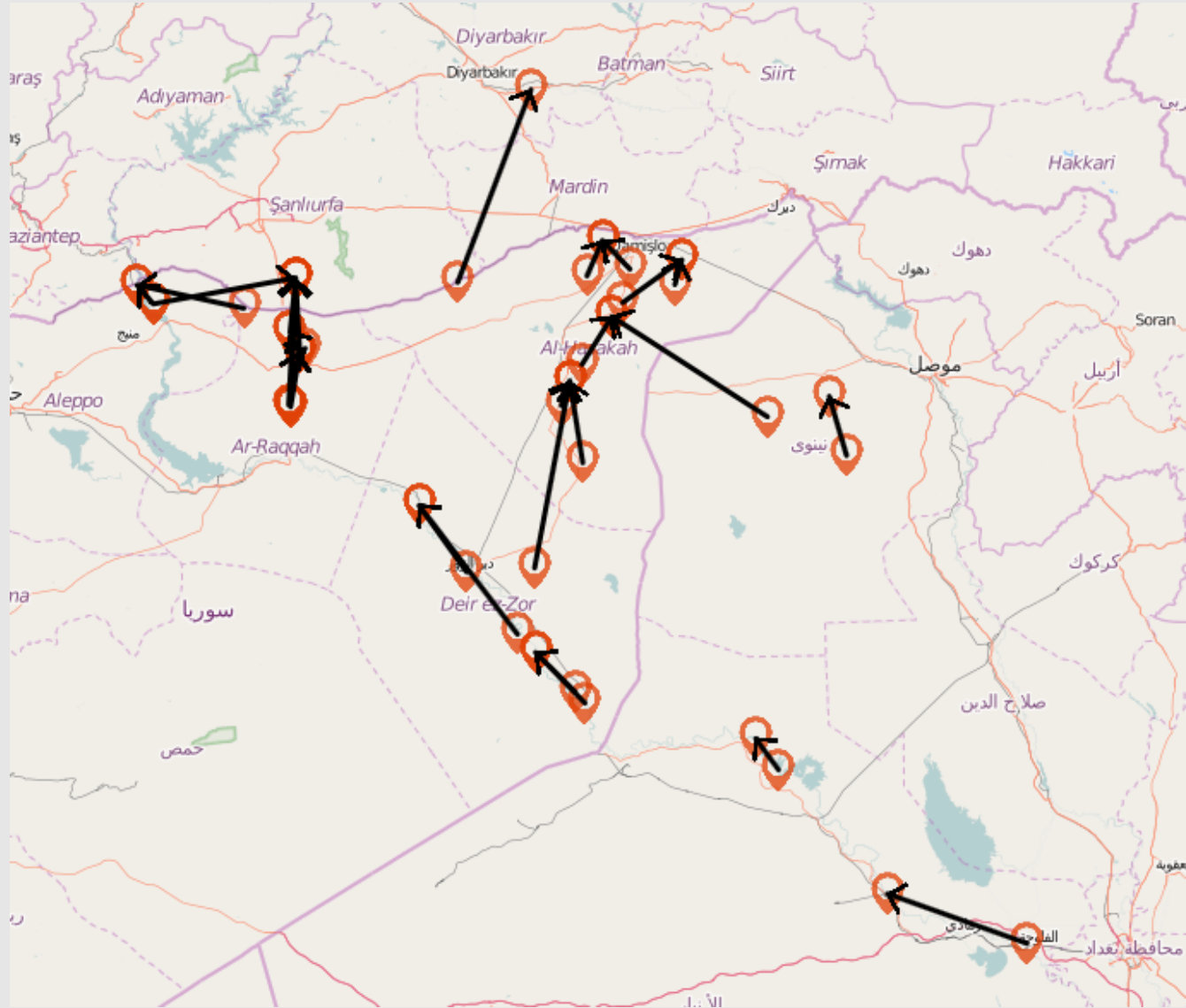
**I want to have snow again. I like ice hockey.**

- 1. Look for dependencies between properties of resolved Toponyms and Findspots**
- 2. Determine the statistical correlation of those dependencies**
- 3. Calculate the probability for unresolved Toponyms and Findspots**

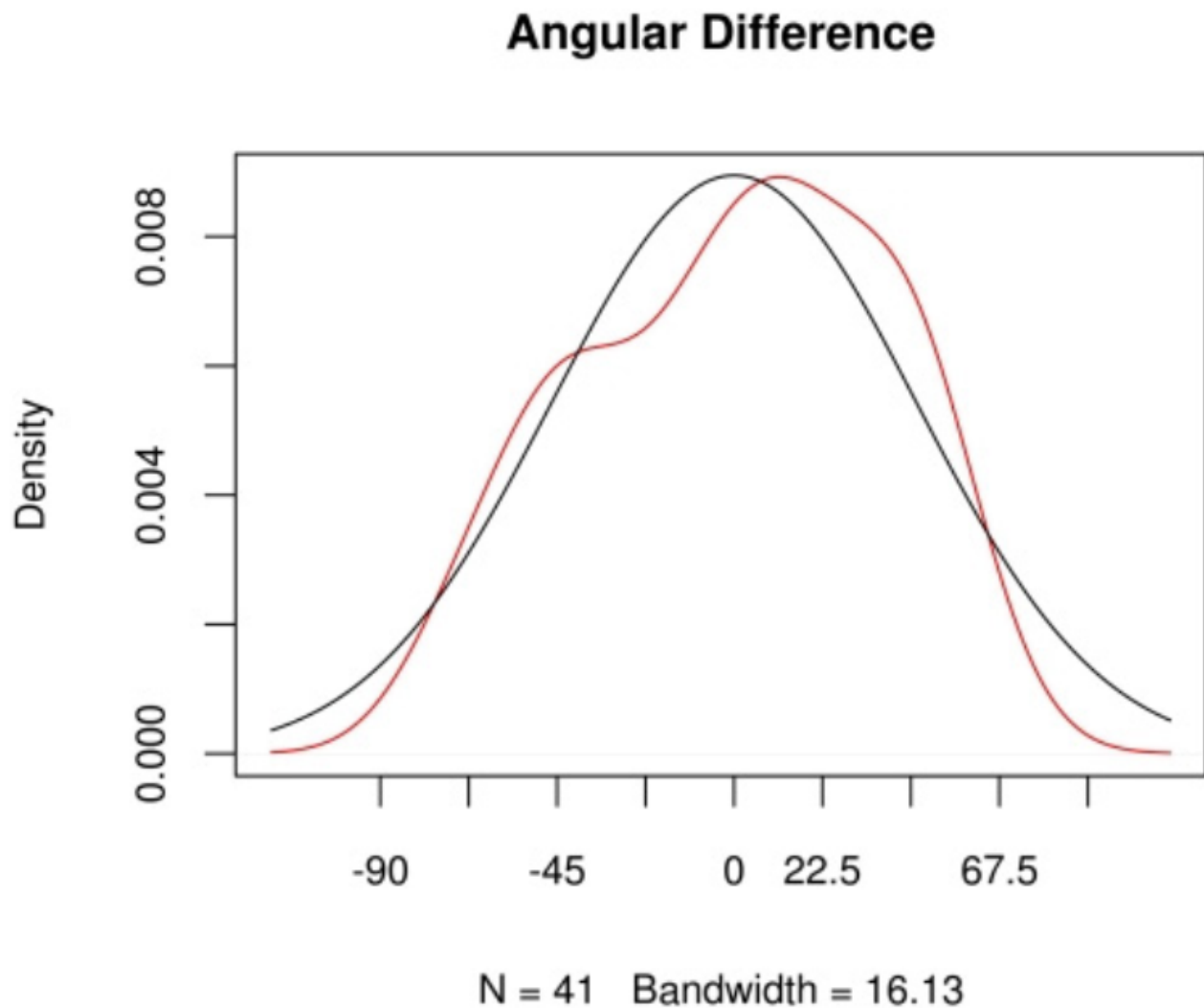
# A is near by B



# Aissouth of B



# Almost Gaussian Distribution

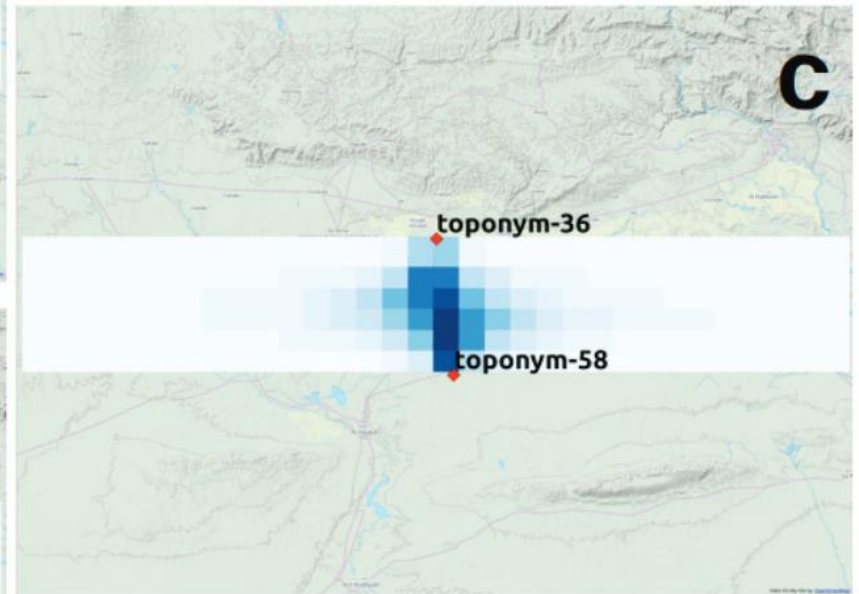
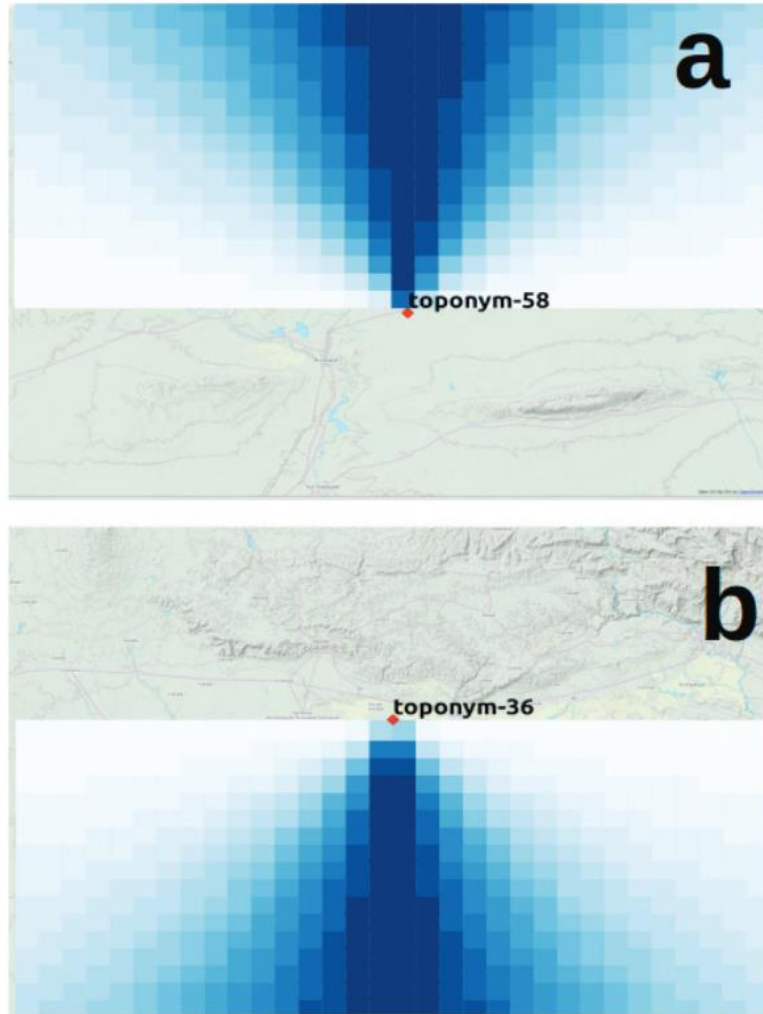


# Where is Lada ?

**We know...**

- a. Lada is north of  
Toponym 58.**
- b. Lada is south of  
Toponym 36.**
- c. Lada is NearBy  
Toponym 122.**

# Where is Lada ?





# Where is Lada?

Findspot 6	38.120892 N, 36.674494 E	44.42%
Findspot 8	43.680763 N, 35.380296 E	88.84%
Findspot 9	38.014397 N, 36.745433 E	0%
Findspot 10	38.138286 N, 36.232512 E	97.73%
Findspot 11	42.938461 N, 36.659026 E	0%
Findspot 12	40.895706 N, 37.058140 E	26.65%
Findspot 13	43.275369 N, 35.493539 E	79.96%
Findspot 14	43.420447 N, 35.502376 E	0%
Findspot 15	41.021719 N, 36.873035 E	0%
Findspot 17	40.668664 N, 37.079632 E	0%

## Conclusion

- **Human interpretation required**
- **Management of uncertainty could improve**
- **Tests with other data**

**That'sit...**

**Thank You!**