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**From:** SB (Serguei Belousov) [REDACTED]  
**Sent:** Tuesday, January 23, 2018 11:57 AM  
**To:** jeffrey E.  
**Subject:** Fwd: bio computing and algebraic topology

regards  
sb@

Begin forwarded message:

From: Коняев АН=#1076;рей [REDACTED]  
Date: January 23, 2018 at 20:55:02 GMT+9  
To: "SB (Serguei Belousov)" [REDACTED]  
Subject: Re: bio computing and algebraic topology

Ok.

Then we talking about topological pattern recognition (this is the same as =omputational (co-) homology) in data.

I saw article about that back in 2014 by guy named Gunnar Carlsson from Sta=ford  
[https://en.wikipedia.org/wiki/Gunnar\\_Carlsson](https://en.wikipedia.org/wiki/Gunnar_Carlsson) <<http://www.ayasdi.com/wp-content/uploads/2015/02/ayasdi-top=logical-pattern-recognition-for-point-cloud-data.pdf>>

and here is an article

<http://www.ayasdi.com/wp-content/uploads/2015/02/ayasdi-topological-pattern-recognition-for-point-cloud-data.pdf> <<http://www.ayasdi.com/wp-content/uploads/2015/02/ayasdi-top=logical-pattern-recognition-for-point-cloud-data.pdf>>

Carlsson is quite famous, he solved so called Burnside conjecture in the 80s. It is possible to write him and ask if there anything in this field= He knows for sure.

Regards,  
Andrei Konayev

23.01.2018, 14:40, "SB (Serguei Belousov)" [REDACTED]

regards  
sb@

Begin forwarded message:

From: "jeffrey E." <jeevacation@gmail.com <mailto:je=vacation@gmail.com>>  
Date: January 23, 2018 at 20:38:40 GMT+9  
To: "SB (Serguei Belousov)" [REDACTED]  
Subject: Re: FW: bio computing and algebraic topology

data , neurons , etc are all embedeed in a space. mo=t anaylysis igoores the location.  
topology .in&nbs=; its basic form and tramformations in more tha 2 dim allows similar=data sets to be recognzied. yes  
it is not ye= used. it will be , my guess. .

[REDACTED]  
On Mon, Jan 22, 2018 at 9:02 PM, SB (Serguei Belousov) [REDACTED]  
wrote:

-----Original Message-----

From: Коняев Андрей [REDACTED]

]

Sent: Monday, January 22, 2018 10:44 PM  
To: SB (Serguei Belousov) [REDACTED]  
Subject: bio computing and algebraic topology

Hi!

Looked over some articles, asked some fellow-mathematicians and this is wha= I have  
got (keep in mind that I don't fully understand what bio-computing=means in this context).

The algebraic topology is used in computational models of protein folding. =t's not new,  
but the progress in the field is quite slow. I believe there =s no effective computational models here yet.

The other use of topology is study of graphs of organic compounds, drugs in=particular. I  
have heard that there are some progress here, it is possible=to do calculations here with some non-trivial results. In  
Russia there's a=company called Biocad, that does that.

Finally the third topology use is neuroscience. It is something of this kin=  
<https://arxiv.org/pdf/1605.01905.pdf> <<https://arxiv.org/pdf/1605.01905.pdf>>

If there's a particular project, I think I can give more specific answer>=

Regards,  
Andrei Konyaev

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please note

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