Use of <u>Ask | Share | Learn</u> and Twitter in Open Pedagogy 15th Annuel Conference



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@drsarahgrace





NH ®

Acknowledgements

- Life Sciences Department, UNH
- My students in Biochemistry and General Chemistry
- BioQUEST/QUBES
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Use of Twitter

- Improve student engagement and discussion of course content, apply to current topics in genomics and biochemistry
- #prescottgenomics current hashtag
- Students assigned to tweet/retweet, comment and like at least once a week
 - Submit screenshots of activity for credit

Biochemistry - Spring 2018 Examples



Followin

A developing tumor detection method analyzes proteome and metabolome data, takes stock of present proteins and all available metabolic products in order to determine tumor makeup, which is more informative than a tumor biopsy. #prescottbiochemistry



Clearer vision of what's inside a tumor and what's going on... Researchers have succeeded in combining tumor data from imaging methods and high-throughput technologies with high precision. The goal is to make metabolic processes in tumors v...

Nicole Collette @nicolecollett14 · Mar 7

Replying to @katelyn4nier

I think every angle on cancer should be studied and this is definitely a new angle. The circadian clock is important for getting meaningful rest and healing #prescottbiochemistry



Kevin Mandro @KMandrobiochem · Mar 7

Replying to @katelyn4nier

This is pretty cool, I thought it was kind of weird they ran the study. Seems like this is already known if there's already drugs on the market leveraging this. #prescottbiochemistry

Engagement – building community

Alyson ODonnell @AlysonObiochem · 20h Replying to @MrSeignious8 Khan academy is one of my favorite tools outside of books and lectures to help me break down such complex process. Great share, it definitely helped me visualize more! #prescottbiochemistry 0 17 LilyWeyant @WeyantLily · Mar 8 Replying to @MrSeignious8 Wow! What a great resource. I can't believe I didn't know about this sooner!#prescottbiochemistry M Aina @ainamasic2033 · Mar 7 Replying to @MrSeignious8 They make it so easy to follow! This helped understand the process of transcription along with the lecture. #prescottbiochemistry 0 11 C M Syeda Fatima @syedaftima174 - Mar 7 Replying to @MrSeignious8 This was really helpful in unde University of way. #prescottbiochemistry New Hampshire

Transcription week – new twitter user



LilyWeyant

Following

Do transcriptome changes have a genetic basis?! Read more to find out. #prescottbiochemistry

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Gene Expression Overlaps Among Psychiatric Disorders Transcriptional profiling of post-mortem human brains reveals commonalities in the genes over- and under-expressed in schizophrenia, bipolar disorder, autism, and major depression. the-scientist.com

11:43 AM - 6 Mar 2018

6	Sarah Pres Replying to what was y	@Weyantl		Mar 7		×
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	psychiatric promise of	ch deepen disorders u developing	ed the under using transcr	iptional pr atments fo	on genetic architecture of rofiling. More importantly, it show or psychiatric disorders by defir ry	
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	Replying to	@WeyantL	olecollett14 - .ily sychiatric dis	NH	University of New Hampsh	ire



Amelia M Keane 8AmeliaKeaneNH

20

Early research has shown that a ban in trans fats leads to decrease in deaths & as nonfatal heart attacks and strokes.

Way to take perfectly healthy unsaturated fats & make them into artificial death molecules, food industry!

nbcnews.com/health/health- ... #prescottbiochemistry



People had fewer heart attacks, strokes, after NY's trans-fa.. Heart attacks and strokes fell by more than 6 percent in New Yor counties that banned trans fats, researchers reported Wednesday.

Lipids week – reading primary literature just because!

Meredith LaRocque @Mer_LaRocque - Feb 22

Replying to @AmeliaKeaneNH

11

More states should implement this ban! I think it also comes with educating the public about trans fats and the dangers of its consumption. Maybe more people would avoid them voluntarily. Iprescottbiochemistry

Alexandra Ferguson @amferguson2018 · Feb 22

0

Replying to @AmeliaKeaneNH

C

This is great! It always nice to see people take action to stop the overwhelming health problems so many people have because of not eating right!

11 \square

Kevin Mandro @KMandrobiochem · Feb 22

Replying to @AmeliaKeaneNH

Here's a link to the actual publication. Some pretty strong p values on this data. Will you be introducing one in the House?

Myscardial Infarction and Stroke	Cambined"					
UC-1 w UC-2	-8.6 (-5.8 to 4.5)		4.6(-11.6 to 1.7)	.13	-621-5210-323	~ BET
Bet	-3.11-7.3 %+4.80		-8.4 (-15.0 to 2.2)	.18	-5.8 (-8.8 %-2.7)	<.001
Barren .	0.0 (-5.2 to 5.2)	.35	-5.5 (-13.8 to 2.8)	26	-6.7 (-5.8 to -5.5)	- 887
Sensitivity analyses						
UIC-T andy	-0.5 (-7.5 in 2.2)	38	-7.8 (-18.2 to 2.5)	.18	-6.6 ()-16.2 m - 3.0	+ 301
UIC-1 andy, excluding MIPC	-8.2 (-38.6 to 0.2)	.25	-9.8 (-17.3 48 -0.7)	.424	-2.0 (-12.5 to -1.4)	
Myncardial infarction*						
WC-1 et (HC-2	3.1 (-3.2 to 9.4)	.36	-7.8-(-14.0-to -1.3)	.62*	-7.8 (-12.7 %-2.83	867
Here .	0.7 (-6.4 to 7.7)		-7.6 (-18.6 to 1.4)	179	-7.8 (-13.2 in -3.0)	.807
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Semillivity analysis						
UC-1 wily	2.5 (-4.8 to 9.8)	.50	-6.7(-27.7 to 0.4)	26	-8.71-15.7 m -1.61	
UIC-1 andy, excluding MPC	-4.5 (-11.0 to 2.05	-32	-7.31-14.0 to -0.81	312	-6.4 (
Étroie*						
UC-1 # UC-2	-2.5 (-8.5 to 3.3)	.41	-4.71-14.258 4.83	.32	-181	
Men	-2.9(-9.9 to 4.1)	.42	-6.1 (-15.6 to 3.4)	.30	-271	
Borner .	-2.1 (-8.1 to 2.8)	.45	-3.4 (-34.4 10 7.5)	51	-451	
Semiltivity analyses						
UKC-1 andy	-2.7 (-38.2 %-4.7)	- 40	-6.8-(-18.3 %+5.1)	26	-171	



^{11:44} PM - 21 Feb 2018

Making it work for them!



Amelia M Keane @AmeliaKeaneNH · Mar 7 Scientists use cryo-freezing to visualize the pre-initiation complex of transcription.

POP QUIZ: Name a component of the initiation complex for eukaryotes #prescottbiochemistry

> Researchers unveil new, detailed images of DNA tr... An unprecedented molecular view of the critical early events in gene expression, a process essential for all life, has been provided by researchers in a new study. Cr...

 \checkmark

sciencedaily.com

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Q 3



Following

Shana Zucker talking about equality for the LGBTQ community in medicine #prescottbiochemistry







So, what is Peerwise?

- Open question authoring
 - Multiple choice questions
 - Ability to write rationale for each question
 - Ranking and badge system
 - Student led questions authored/answered/ranked by students
 - Administrator access
 - Can see all student identifiers (who authored which question, etc.)
 - Reports
 - Moderation (delete questions)
 - Item tags



Benefits for students

- Design their own questions
 - reflection on content
 - how it relates to learning outcomes makes goals transparent
- Choosing distractors
 - Consider misconceptions
 - Possible interpretations of concepts
- Writing explanations
 - Requires expressing full understanding
 - Refine their own communication skills
 - Deepen their own understanding reflective practice

- Answering questions
 - Drill and practice
 - Reinforces learning
 - Self-assessment
- Evaluating quality/ Ranking
 - Higher order cognitive skills (judgment)
 - What makes an effective question
- Addressing questions Feedback loop
 - Get feedback on your own questions, allows for dialogue between students



Benefits for Instructors

• Early feedback

- See how students are answering in real time
- Student comments -- insight into perceptions/misconceptions

Large test banks

- Fast, free
- Drill/practice

Connection to learning objectives

- Connecting students to WHY
- Student engagement low risk
 - Easy assignment design
- Efficient easy to set up
 - Could run with large classes

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Welcome to PeerWise

PeerWise supports you and your peers in the creation, sharing, ev to your studies.

You design the questions ~

Creating a question requires you to reflect on what you are is your own words helps to reinforce your understanding. If you

See what everyone thinks Attempt questions written by your peers, and see how everys

to explanations and you can participate in discussions. See s

Learn from your peers

Search by quality, difficulty and topic to find questions of inteand request help when you need it. Help your peers, and let

PeerWise is simple to use - you can access it anywhere and anytir

PeerW

University of New Hampshire

Home

Welcome home

Welcome to PeerWise. Simply choose a course below to get started. If you like, you can a

Your courses

You are currently a member of the following courses. Simply click on the course name to

Biochemistry Spring 2018

Course ID	Identifiens active	Questions	Acomes	Comments	Last correct an
16485	31/31	1122	888	303	2 hours as

Create a new course

Create a new course

You are able to create new courses on PeerWise. Simply click the "Create a new course"

Peer Wise

Biochemistry Spring 2018

Home | Main menu

Congratulations! You have just earned 3 new badges!

Your questions

view -

You are currently contributing 17 questions view -You have deleted 0 of your questions

Answered questions

You have answered 3 questions (of these, 0 have b view -You have written 1 comment about these questions

Unanswered questions

There are currently 1102 unanswered questions you may answer





General **Biochemistry Pilot** S18

Anonymous to students - instructor has moderator access

Empty repository to start

31 students

Peerwise- behind the scenes

Total	Reputation score (components)
	924 (32q, 68a, 19r)
	750 (33q, 27a, 19r)
	707 (47q, 16a, 19r)
	664 (20q, 40a, 14r)
	658 (24q, 29a, 15r)

Questions answered	
66	
55	
40	
40	
38	

Questions (non-deleted)	Answers (all)	Comments written	Ratings (all)	View contributions	
34	29	9	27	view	
37	30	5	28	view	
33	28	7	27	view	
36	32	23	29	view	
37	21	9	17	view	
35	22	10	22	view	
42	40	13	38	view	
46	27	14	22	view	
37	21	6	19	view	
32	34	6	11	view	
36	66	9	58	view	
17	3	1	1	view	
37	25	8	19	view	
37	55	13	10	niversity of	



University of New Hampshire

Peerwise – future

- Takeaways on tool
 - Easy to use and get running for all
 - Anonymous nature
 - Good usage/real time statistics
- Takeaways on assignment
 - Several students answering/commenting more than assigned
 - Too many questions!
 - Not all high quality
 - Not all answered
- Future redesign assignment
 - 2 groups of students each week (one post/one review)
 - All questions will get reviewed multiple times
 - More instruction on question design, with examples
 - Goal increase high quality reviewed questions, limit amount of instructor review





Current project – General Chemistry

• Different course format

- Synchronous online
- Flipped classroom model class sessions are problem solving based
- Team based learning
- Each team member posts a new problem based on type of problem team solved in class session

• Peerwise

- Each team member posts one new problem based on type of problem team solved in class session
 - Lower total questions, higher quality?
- All students answer ALL questions on topic
 - More practice, also easier to see if question is an issue
- Students required to rank and comment on at least 2 questions on every topic
 - Hopefully more feedback, more data on best/highest quality questions
 - More feedback to students to reflect on quality of questions



Let's try it out!

- Be a student in my Biochemistry course
 - Create a student account
 - Visit https://peerwise.cs.auckland.ac.nz/
 - Select to register as a student
 - Select University of New Hampshire as your school in the dropdown menu
 - Course ID 16485
 - Student ID (will assign)
 - Select to create my Peerwise account
 - Login
 - Enter Biochemistry Spring 2018 course
- Instructor version If interested, need to request instructor access
 - Turnaround time is pretty quick (day or so)



How might you use these tools?

Idea sharing... what open online tools do you like to use?

What challenges do you have that a tool might assist with?

Thanks for sharing and participating!!!