

Biotechnology News

February 2020

New personnel/quests

We welcome **Stefano Sacchetto** back as he will start working as a project assistant from February 2020 with Rajni in the Vinnova project for 1 year.

Reuben Maghembe, a PhD student from University of Dar es Salaam will come in February for 6 months within a SIDA financed collaborative project between Sweden and Tanzania. Reuben will be supervised by Rajni and Adel.

Paula Wagner Egea, started her master thesis on enzymatic degradation of plastics.

Savvina Panagiota Leontakianakou & Manjot Kaur, started their master thesis on biocatalyst and processes development for the production of prebiotics. Project in collaboration with Carbiotix AB.

Erasmus student, supervised by Javier, **Sven Campaert**, from the Karel de Grote University College, Belgium, will join to the project on enzymatic degradation of plastics. From February to May.

MISCELLANEOUS

Upcoming dissertations

April 1st

May 29th

Zubaida

Emanuel



Funding

Rajni has been granted 1 000 000 SEK from Lantmännen Research Foundation for a period of 2 years for a project on “Recyclable plastics from residual agricultural biomass”, and 876 588 SEK from Vinnova for 1 year for a project “Climate smart milk protein”.

Don't forget: Every Monday at 09.00 we meet in the kitchen for weekly breakfast together. Fresh bread, butter, cheese and jam is served!

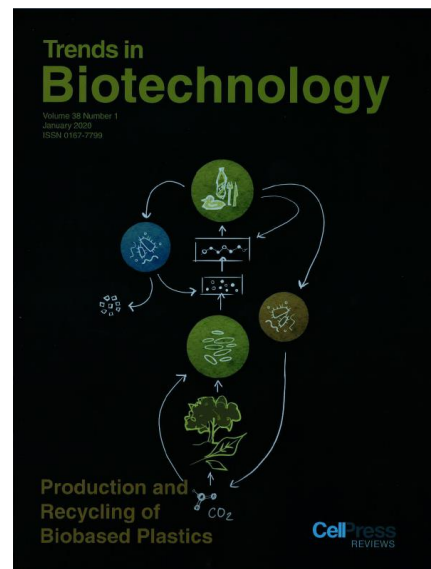
- **Date for the yearly spring excursion and trip destination will be notified in the next newsletter.**

PUBLICATIONS

Warlin N, Gonzalez MNG, Mankar S, Valsange NG, Sayed M, Pyo S-H, Rehnberg N, Lundmark S, Hatti-Kaul R, Jannasch P, Zhang B (2019) A rigid spirocyclic diol from fructose-based 5-hydroxymethylfurfural: synthesis, life-cycle assessment, and polymerization for renewable polyesters and poly(urethane-urea)s. *Green Chemistry* 21, 6667-6684; DOI: 10.1039/C9GC03055G

Korany AH, Abouhmad A, Bakeer W, Essam T, Amin MA, Hatti-Kaul R, Dishisha T (2020) Comparative structural analysis of different mycobacteriophage-derived mycolylarabinogalactan esterases (Lysin B). *Biomolecules* 10, 45; doi: 10.3390/biom10010045

Hatti-Kaul R, Nilsson LJ, Zhang B, Rehnberg N, Lundmark S (2020) Designing biobased recyclable polymers for plastics. *Trends in Biotechnology* 38, 50-67; DOI: 10.1016/j.tibtech.2019.04.011



Ahmed H. Korany, Adel Abouhmad, Walid Bakeer, Tamer Essam, Magdy A. Amin, Rajni Hatti-Kaul* and Tarek Dishisha. Comparative Structural Analysis of Different Mycobacteriophage-Derived Mycolylarabinogalactan Esterases (Lysin B). *Biomolecules* 2020, 10 (1), 45; <https://doi.org/10.3390/biom10010045>

Article in context of Virus-X project results:

Freitag-Pohl S, **Jasilionis A**, Håkansson M, Svensson LA, Kovačič R, Welin M, Watzlawick H, Wang L, Altenbuchner J, Płotka M, Kaczorowska AK, Kaczorowski T, **Nordberg Karlsson E**, Al-Karadaghi S, Walse B, Aevansson A, Pohl E. 2019. Crystal structures of the *Bacillus subtilis* prophage lytic cassette proteins XepA and YomS. *Acta Crystallogr D Struct Biol* 75(11):1028-1039. doi: 10.1107/S2059798319013330

Conference paper in context of Virus-X project results:

Jasilionis A, Akutsu M, Håkansson M, Wang L, Welin M, Kovačič R, Liu Y, Watzlawick H, Aevansson A, Prangishvili D, Altenbuchner J, Al-Karadaghi S, **Nordberg Karlsson E**. 2019. Structure and activity characterisation of phosphatase SBFV3-DSP from *Sulfolobales* Beppu filamentous virus 3, abstr LB-27-09. *FEBS Open Bio* 9(Suppl):doi:10.1002/2211-5463.12675

Arza, C. R., Wang, P., Linares-Pastén, J., & Zhang, B. (2019). Synthesis, thermal, rheological characteristics, and enzymatic degradation of aliphatic polyesters with lignin-based aromatic pendant groups. *Journal of Polymer Science Part A: Polymer Chemistry*, 57(23), 2314-2323. (doi.org/10.1002/pola.29534)

Wang, P., Linares-Pastén, J., & Zhang, B. (2020). Synthesis, molecular docking simulation and enzymatic degradation of AB-type indole-based polyesters with improved thermal properties. *Biomacromolecules*. ACS (doi.org/10.1021/acs.biomac.9b01399)

Ara, K. Z. G., Månberger, A., Gabriško, M., Linares-Pastén, J., Jasilionis, A., Friðjónsson, Ó. H., Hreggviðsson, G. Ó., Janeček, Š., Nordberg Karlsson, E. (2020). Characterization and diversity of the complete set of GH family 3 enzymes from *Rhodothermus marinus* DSM 4253. *Scientific Reports*. 10(1) 1329. (doi.org/10.1038/s41598-020-58015-5)

SCIENTISTS



what my mom
thinks I do



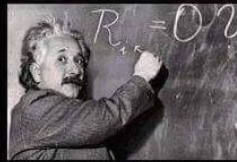
what my friends
think I do



what society
thinks I do



what my boss
thinks I do



what I think
I do



What I really
do

Contributions to the next newsletter
(expected out in April 2020):

Please send an e-mail to Emma

emma.poaches@biotek.lu.se