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ACADEMIC DEGREES

1999	Ph.D. (direct Ph.D) Department of Food Engineering and Biotechnology, Technion, Haifa, Israel
1994	B.Sc. (Summa cum laude), Dept. of Food Engineering and Biotechnology, Technion, Haifa, Israel

ACADEMIC APPOINTMENTS

9/2008-present	Associate Professor, Department of Biotechnology and Food Engineering, Technion, Haifa, Israel.
10/2001-2008	Senior lecturer**,** Department of Biotechnology and Food Engineering, Technion, Haifa, Israel.
4/1999-8/2001	Post-doctoral associate at the laboratory of Prof Karl R Matthews, Department of Food Science, Rutgers University, NJ, USA.

RESEARCH INTERESTS

- Microbial resistance of *Salmonella*: mechanisms of resistance to antibiotics, food preservatives and sanitizing agents, and development of new antimicrobial agents to combat resistant pathogens.
- Molecular and epidemiological studies of *Salmonella*: characterization of emerging food-borne pathogens, and emerging virulence factors.
- *Salmonella*'s biofilms: biofilm development on different surfaces, resistance of biofilm cells to antimicrobials, and development of new technologies for removal of biofilms.
- Interactions between *Salmonella* and plants: molecular study of the behavior of *Salmonella* in water, soil and leafy greens.
- Gut microflora: the effect of prebiotic and probiotic supplements on the intestinal microflora of infants.

PUBLICATIONS

Theses

Structure and interactions of functional domains from the cellulosome of *Clostridium thermocellum.* PhD Theses. 1999. Department of Food Engineering and Biotechnology, Technion, Haifa, Israel. Supervisor: Prof. Yuval Shoham.

Refereed papers in professional journals

1. Yaron, S., E. Morag, E.A. Bayer, R. Lamed and Y. Shoham. 1995. Expression, purification and subunit-binding properties of cohesins 2 and 3 of the *Clostridium thermocellum* cellulosome. *FEBS Lett*. 360:121-124.
2. Yaron, S., L. J. W. Shimon, F. Frolow, R. Lamed, E. Morag, Y. Shoham and E. A. Bayer. 1996. Expression, purification, and crystallization of a cohesin domain from the cellulosome of *Clostridium thermocellum*. *J Biotechnol*. 51:243-249.
3. Morag, E., S. Yaron, R. Lamed, Y. Shoham and E. A. Bayer. 1996. Dissociation of the cellulosome of *Clostridium thermocellum* under nondenaturing conditions. *J Biotechnol.* 51:235-242.
4. Shimon, L. J. W., E. A. Bayer, E. Morag, R. Lamed, S. Yaron, Y. Shoham and F. Frolow. 1997. A cohesin domain from *Clostridium thermocellum*: The crystal structure provides new insights into cellulosome assembly. *Structure.* 5:381-390.
5. Shimon, L. J. W., F. Frolow, S. Yaron, R. Lamed, E. Morag, E. A. Bayer and Y. Shoham. 1997. Crystallization and preliminary X-ray analysis of a cohesin domain of the cellulosome from *Clostridium thermocellum*. *Acta Crystallogr*. D. 53:114-115.
6. Berdichevsky, Y., R. Lamed, D. Frenkel, U. Gophna, E. A. Bayer, S. Yaron, Y. Shoham, and I. Benhar. 1999. Matrix-assisted refolding of single-chain Fv- cellulose binding domain fusion proteins. *Protein Expr Purif*. 17:249-259.
7. Yaron, S., G.L. Kolling, L. Simon, and K.R. Matthews. 2000. Vesicle transfer of virulence genes from *Escherichia coli* O157:H7 to other enteric bacteria. *Appl Environ Microbiol*. 66:4414-4420.
8. Mechaly, A., S. Yaron, H-P. Fierobe, A. Belaich, J-P. Belaich, R. Lamed, Y. Shoham, and E. A. Bayer. 2000. Cohesin-dockerin recognition in cellulosome assembly: experiment versus hypothesis. *Proteins* 39:170-177.
9. Lamed, R., R. Kenig, E. Morag, S. Yaron, Y. Shoham, and E. A. Bayer. 2001. Nonproteolytic cleavage of aspartyl proline bonds in the cellulosomal scaffoldin subunit from *Clostridium thermocellum*. *Appl Bioch Biotech*. 90:67-74.

10. Gandhi, M. R., S. Golding, S. Yaron, and K. R. Matthews. 2001. Use of green fluorescent protein expressing *Salmonella* Stanley to investigate survival, spatial location, and control on alfalfa sprouts. *J Food Prot*. 64:1891-1898.
11. Yaron, S., and K.R. Matthews. 2002. A reverse transcriptase-PCR assay for detection of viable *Escherichia coli* O157:H7. *J Appl Microbiol*. 92(4):633-640.
12. Solomon E. B., S. Yaron, and K. R. Matthews. 2002. Transmission of *Escherichia coli* O157:H7 from contaminated manure and irrigation water to lettuce plant tissue and its subsequent internalization. *Appl Environ Microbiol*. 68:397-400.
13. Yaron, S., D.G. White, and K.R. Matthews. 2003. Characterization of an *Escherichia coli* O157:H7 *marR* mutant. *Int J Food Micro*biol. 85:281-291.
14. Gilad, R., L. Rabinovich, S. Yaron, E. A. Bayer, R. Lamed, H. J. Gilbert and Y. Shoham. 2003. CelI, a non-cellulosomal family-9 enzyme from *Clostridium thermocellum,* is a processive endoglucanase that degrades crystalline cellulose. *J Bacteriol*. 185:391-398.
15. Yaron, S., D. Shachar, T. Rydlo, and A. Mor. 2003. Activity of Dermaseptin K_4-S4 against foodborne pathogens. *Peptides*. 24:1815-1821.
16. Fridman, M., V. Belakhov, S. Yaron, and T. Baasov. 2003. A new class of branched aminoglycosides: pseudo-pentasaccharide derivatives of Neomycin *B. Org Lett*. 5:3575-3578.
17. Scher K., U. Romling, and S. Yaron. 2005. Effect of heat, acidification and chlorination on *Salmonella enterica* serovar Typhimurium cells in a biofilm formed at the air-liquid interface. *Appl Environ Microbiol*. 71:1163-1168.
18. Hainrichson, M., V. Pokrovskaya, D. Shallom- Shezifi, M Fridman, V. Belakhov, D. Shachar, S. Yaron, and T. Baasov. 2005. Branched aminoglycosides: biochemical studies and antibacterial activity of neomycin B derivatives. *Bioorg Med Chem*. 13:5797-5807.
19. Ben-Barak, Z., W. Streckel, S. Yaron, S. Cohen, and H. Tschäpe. 2006. The expression of the virulence-associated effector protein gene *avrA* is dependent on a *Salmonells enterica* specific regulatory function. *Int J Med Microbiol*. 296:25-38.
20. Lapidot, A., U. Romling, and S. Yaron. 2006. Biofilm formation and the survival of *Salmonella typhimurium* on parsley. *Int J Food Microbiol*. 109:229-233.
21. Weinberger, M., H. Solnik-Isaac, D. Shachar, A. Rafsed, L. Valinsky, N. Andorn, A. Fraser, S. Yaron*, and D. Cohen. 2006. *Salmonella enterica* serotype Virchow: molecular and epidemiological characterization of an emerging foodborne pathogen. *Clin Microbiol Infec J*. 12:999-1005. *Corresponding author.
22. Shachar, D., and S. Yaron. 2006. Heat tolerance of *Salmonella enterica* serotypes Agona, Enteritidis and Typhimurium in peanut butter. *J Food Prot*. 69:2687-2691.

23. Tabak, M., K. Scher, E. Hartog, U. Romling, K.R. Matthews, M.L. Chikindas, and S. Yaron. 2007. Effect of triclosan on *Salmonella* Typhimurium at different growth stages and in biofilms. FEMS Microbiol Lett. 267(2):200-206.
24. Hainrichson, M., O. Yaniv, M. Cherniavsky, I. Nudelman, D. Shallom- Shezifi, S. Yaron, and T. Baasov. 2007. Overexpression and initial characterization of the chromosomal aminoglycoside 3'-*O*-phosphotransferase APH(3')-IIb from *Pseudomonas aeruginosa*. *Antimicrob Agents Chemother*. 51:774-776.
25. Solnik- Isaac, H., M. Tabak, A. Ben-David, D. Shachar, M. Weinberger, and S. Yaron. 2007. Quinolone resistance of *Salmonella enterica* serovar Virchow isolates from humans and poultry in Israel: evidence for clonal expansion. *J Clinical Microbial* 45:2575-2579.
26. Scher, K., E. Kesselman, E. Shimoni, and S. Yaron. 2007. Morphological analysis of young and old pellicles of *Salmonella* Typhimurium. *Biofouling.* 23:385-394.
27. Menashe O., E. Kaganskaya, T. Baasov, and S. Yaron. 2008. Aminoglycosides affect intracellular *Salmonella enterica* serovars Typhimurium and Virchow. *Antimicrob Agents Chemother* 52:920-926.
28. Chen L., M. Hainrichson, D. Bourdetsky, A. Mor, S. Yaron, and T. Baasov. 2008. Structure-toxicity relationship of aminoglycoside antibiotics: development of new pseudo-disaccharide scaffold with improved acute toxicity. *Bioorg Med Chem* 16:8940-8951.
29. Eshed L., S. Yaron, and C.G Dosoretz. 2008. The effect of cross-flow on the development of the biofouling layer on membrane separation. *Appl Environ Microbiol*. 74:7338-7347.
30. Hartog E., L. Ben-Shalom, D. Shachar, K. R. Matthews, and S. Yaron. 2008. Regulation of *acrAB* and *micF* in *Salmonella enterica* serovar Typhimurium. *Microbiol. Immunol* 52:565-574.
31. Nataf, Y., S. Yaron, F. Stahl, R. Lamed, E.A. Bayer, T.H. Scheper, A.L. Sonenshein, and Y. Shoham. 2009. Cellodextrin and laminaribiose ABC transporters in *Clostridium thermocellum*. *J. Bacteriol*. 191:203-209.
32. Kerrinnes T., Z. Ben-Barak, W. Streckel, F. Faber, E. Tietze, R. Prager, H. Tschäpe and S. Yaron. 2009. CsrA and CsrB are requested for the post-transcriptional control of the virulence associated effector protein AvrA of *Salmonella enterica*. *Int J Med Microbiol*. 299 (5):333-341.
33. Lapidot A. and S. Yaron. 2009. Transmission of *Salmonella* enterica Serovar Typhimurium from contaminated irrigation water to parsley is dependent on biofilm matrix components. *J Food Prot*. 72 (3):618-623.
34. Pokrovskaya V., V. Belakhov, M. Hainrichson, S. Yaron, T. Baasov. 2009. Design, synthesis, and evaluation of novel fluoroquinolone-aminoglycoside hybrid antibiotics. *J Med Chem* 52 (8): 2243-2254.

35. Shirron N., G. Kisluk, Y. Zelikovich, I. Eivin, E. Shimoni, and S. Yaron. 2009. A comparative study assaying commonly used sanitizers for antimicrobial activity against indicator bacteria and a *Salmonella* Typhimurium strain on fresh produce. *J Food Prot* 72 (11):2413-2417.
36. Tabak M., K. Scher, M. L. Chikindas, and S. Yaron. 2009. The synergistic activity of triclosan and ciprofloxacin on biofilms of *Salmonella* Typhimurium. FEMS Microbiol Lett. 301(1):69-76.
37. Hartog, E., O. Menashe, E. Kler and S. Yaron. 2010. Salicylic acid differently affects the activity of ciprofloxacin against intracellular and extracellular *Salmonella enterica* serovar Typhimurium. J *Antimicrob Chemother* 65(5):888-896.
38. Zaidenstein, R., C. Peretz, I. Nissan, A. Reisfeld, S. Yaron, V. Agmon, M. Weinberger. 2010. The epidemiology of extraintestinal non-typhoid *Salmonella* in Israel: the effects of patients' age and sex. *Eur J Clin Microbiol Infect Dis*. 29 (9):1103-1109.
39. Weinberger, M., S. Yaron, V. Agmon, R. Yishai, A. Rosenberg, and C. Peretz. 2011. Curtailed short-term and long-term survival following infection with non-typhoid *Salmonella* in Israel. *Clin Microbiol Infec*. 17(2):278-284.
40. Shirron N. and S. Yaron. 2011. Active suppression of the early steps of hypersensitive response in Tobacco by the human pathogen *Salmonella* Typhimurium. *Plos One* 6(4):e18855.
41. Kisluk G., D. Hoover, K. Kniel and S. Yaron. 2012. Quantification of low and high levels of *Salmonella enterica* serovar Typhimurium on leaves. LWT - Food Science and Technology 45(1): 36-42.
42. Milyutin Y., N. Shaham-Waldmann, S. Yaron and Y. Paz. 2012. FRET-based technique for the characterization of contour lines. *Dyes and Pigments* 95(1):18-22.
43. Kisluk G. and S. Yaron. 2012. Presence and Persistence of *Salmonella enterica* serotype Typhimurium in the phyllosphere and the rhizosphere of spray irrigated parsley. *Appl Environ Microbiol*. 78(11):4030-4036.
44. Schlisselberg D., E. Kler, E. Kaliliy, G. Kisluk, O. Karniel, and S. Yaron. 2013. Inactivation of foodborne pathogens in ground beef by cooking with highly controlled radio frequency energy. *International J of Food Microbiology* 160: 219-229.
45. Weinberger M., V. Agmon, S. Yaron, I. Nissan and C. Peretz. 2012. Geographical variations in *Salmonella* incidence in Israel 1997-2006; the effect of rural residency. *Epidemiol Infect*. 12:1-10.
46. Yaron, S., D. Shachar, L. Abramas, A. Riskin, D. Bader, I. Litmanovitz, F. Bar-Yoseph, T. Cohen, L. Levi, Y. Lifshitz, R. Shamir, and R. Shaoul. 2012. Effect of high beta-palmitate content in infant formula on the intestinal microflora of term infants: A double-

blind, randomized pilot study. *J Pediatric Gastroenterology & Nutrition* (available on line).

47. Markland S.M., K. L. Shortlidge, D.G. Hoover, S. Yaron, J. Patel, A. Singh, M. Sharma, and K.E. Kniel. 2012. Survival of pathogenic *Escherichia coli* on basil, lettuce, and spinach. *Zoonoses and Public Health*. (available on line).
48. Schlisselberg D. and S. Yaron. 2012. The effects of stainless steel finish on the *Salmonella* Typhimurium attachment, biofilm formation and sensitivity to chlorine. *Food Microbiology*. (available on line).
49. Kisluk, G., E. Kalily, and S. Yaron. 2013. Resistance to essential oils and survival of *Salmonella enterica* serovars in growing and harvested basil. *Environmental Microbiology*. (available on line).

Chapters in Books

1. Bayer, E. A., E. Morag, R. Lamed, S. Yaron, and Y. Shoham. Cellulosome structure: four-pronged attack using biochemistry, molecular biology, crystallography and bioinformatics. *In*: M. Claeyssens, K. Piens and W. Nerinckx (eds.), *Carbohydrases from Trichoderma reesei and other microorganisms*. 1998, pp 39-67. The Royal Society of Chemistry, London.
2. Benhar, I., A. Tamarkin, L. Marash, Y. Berdichevsky, S. Yaron, Y. Shoham, R. Lamed, and E.A. Bayer. Phage display of cellulose binding domains for biotechnological application. In M. E. Himmel, J. O. Baker and J. N. Saddler, (eds.), *Glycosyl Hydrolases for Biomass Conversion*. 2001. ACS Symposium Series 769, pp. 168-189. American Chemical Society, Washington, DC.
3. Romling, U., D. Pesen, and S. Yaron. Biofilms of *Salmonella enterica*. In F. J. Cooke, J. Wain and E.J. Threlfall (eds.), *Salmonella: Molecular Biology and Pathogenesis*. 2006. Horizon Bioscience press.
4. Yaron S. Microbial attachment and persistence on plants. Chapter 2. In K.R. Matthews (ed.), *The Produce Contamination Problem – Causes and Solutions*. 2013. Elsevier press. (Submitted).

PATENTS

1. Micha Fridman, Valery Belakhov, Sima Yaron, and Timor Baasov. A New Class of Branched Aminoglycosides: Pseudo-Pentasaccharide Derivatives of Neomycin B. Accepted as a provisional patent, June 2003. Israel patent application Ref No 26420. USA application No. 60/484,293.
2. Micha Fridman, Valery Belakhov, Sima Yaron, and Timor Baasov. Bifunctional Antibiotics for Targeting rRNA and Resistance-Causing Enzymes. Accepted as a provisional patent, February 2004. Israel patent application Ref No 27240. US patent number 2005004052.

3. Micha Fridman, Valery Belakhov, Sima Yaron, and Timor Baasov. Bifunctional Antibiotics for Targeting rRNA and Resistance-Causing Enzymes and for inhibition of *Anthrax* lethal factor. Accepted as a provisional patent, September 2005. European patent application Ref No 05778420.9.
4. Milyutin Yana, Sima Yaron and Yaron Paz. FRET-based technique for characterization of particles, surfaces and films, June 2011. Patent application number: 61496728, EFS ID: 10299089.