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Selected Publications

Over 25 peer-reviewed publications, including 3 book chapters. Collectively, this literature has been cited more than 2,200 times (*Google Scholar*). Five significant papers[†] in the fields of bioprocess engineering, molecular genetics, and technoeconomic analysis have each received over 100 citations.

Book Chapters

1. Wang Q, Chung C-Y, **Rosenberg JN**, Yu G, Betenbaugh MJ. (**2018**) Application of the CRISPR/Cas9 gene editing method for modulating antibody fucosylation in CHO cells. In: *Recombinant Protein Expression in Mammalian Cells: Methods & Protocols, Methods in Molecular Biology.* DL Hacker (Ed.), New York, NY: Springer, 237–257. [Cited 4]

2. **Rosenberg JN**, Oh VH, Yu G, Guzman BJ, Oyler GA, Betenbaugh MJ. (**2015**) Chapter 22: Exploiting the molecular genetics of microalgae: from strain development pipelines to the uncharted waters of mass production. In: *Handbook of Microalgae: Biotechnology Advances*, S-K Kim (Ed.), ISBN: 978-0-12-800776-1. London, UK: Elsevier Academic Press. 331–352. [Cited 3]

3. **Rosenberg JN**, Betenbaugh MJ, Oyler GA. (**2011**) Chapter 12: Paving the road to algal biofuels with the development of a genetic infrastructure. In: *Biofuel's Engineering Process Technology*, MA dos Santos Bernardes (Ed.), ISBN: 978-953-307-480-1. Rijeka, Croatia: InTech. 267–291.

Peer-Reviewed Papers

1. Tang Y, Zhang Y, **Rosenberg JN**, Betenbaugh MJ, Wang F. (**2016**) Optimization of one-step *in situ* transesterification method for accurate quantification of EPA in *Nannochloropsis gaditana*. *Appl Sci*, 6:343. (Open Access) [Cited 10]

2. Tang Y, Zhang Y, **Rosenberg JN**, Sharif N, Betenbaugh MJ, Wang F. (**2016**) Efficient lipid extraction and quantification of fatty acids from algal biomass using accelerated solvent extraction (ASE). *RSC Adv*, 6:29127–29134. [Cited 21]

3. Tang Y, **Rosenberg JN**, Bohutskyi P, Yu G, Betenbaugh MJ, Wang F. (**2015**) Microalgae as a feedstock for biofuel precursors and value-added products: green fuels and golden opportunities. *BioResources*, 11:2850–2885. [Cited 27]

4. Yu G, **Rosenberg JN**, Betenbaugh MJ, Oyler GA. (**2015**) Pac-Man for biotechnology: co-opting degrons for targeted protein degradation to control and alter cell function. *Curr Opin Biotechnol*, 36:199–204. [Cited 6]

5. Kobayashi N, Barnes A, Jensen T, Noel E, Andlay G, **Rosenberg JN**, Betenbaugh MJ, *et al.* (**2015**) Comparison of biomass and lipid production under vigorous aeration and 3% CO_2 among lead candidate *Chlorella* strains. *Bioresource Technol*, 198:246–255. [Cited 8]

Peer-Reviewed Papers (continued)

6. Bohutskyi P, Liu K, Nasr LK, Byers N, **Rosenberg JN**, Oyler GA, Betenbaugh MJ, Bouwer EJ. (**2015**) Bioprospecting microalgae for integrated biomass production and phytoremediation of unsterilized wastewater and anaerobic digestate. *Appl Micro Biotechnol*, 99:6139–6154. [Cited 91]

7. Barrera DJ, **Rosenberg JN**, Chiu JG, Chang Y-N, Debatis M, Ngoi S-M, Chang JT, Shoemaker CB, Oyler GA, Mayfield SP. (**2015**) Algal chloroplast produced camelid V_HH anti-toxins are capable of neutralizing botulinum neurotoxin. *Plant Biotech J*, 13:117–124. [Cited 38]

8. **Rosenberg JN**, Kobayashi N, Barnes A, Noel EA, Betenbaugh MJ, Oyler GA. (**2014**) Comparative analyses of three *Chlorella* species in response to light and sugar reveal distinctive lipid accumulation patterns in the microalga *C. sorokiniana*. *PLOS ONE*, 9:e92460. [Cited 93]

9. Jiang W, Cossey S, **Rosenberg JN**, Oyler GA, Olson BJSC, Weeks DP. (**2014**) A rapid live-cell ELISA for characterizing antibodies against surface antigens of *C. reinhardtii* and its use in isolating algae from natural environments with related cell wall components. *BMC Plant Biology*, 14:244. [Cited 7]

10. Wan M, Jin X, Xia J, **Rosenberg JN**, Yu G, Nie A, Oyler GA, Betenbaugh MJ. (**2014**) The effect of iron on growth, lipid accumulation, and gene expression profile of the freshwater microalga *Chlorella sorokiniana*. *Appl Microbiol Biotechnol*, 98:9473–9481 [Cited 43]

11. †Rogers JN, **Rosenberg JN**, Guzman BJ, Oh VH, Mimbela LE, Ghassemi A, Betenbaugh MJ, Oyler GA, Donohue MD. (**2014**) A critical analysis of paddlewheel-driven raceway ponds for algal biofuel production at commercial scales. *Algal Research*, 4:76–88. *Special Issue: Progress and Perspectives on Microalgal Mass Cultivation* (Open Access) [Cited 216]

12. Kobayashi N, Noel EA, Barnes A, Watson A, **Rosenberg JN**, Erickson G, Oyler GA. (**2013**) Characterization of *Chlorella sorokiniana* strains in anaerobic digested effluent from cattle manure. *Bioresource Technol*, 150:377–386. [Cited 88]

13. Jiang WZ, **Rosenberg JN**, Wauchope AD, Tremblay JM, Shoemaker CB, Weeks DP, Oyler GA. (**2013**) Generation of a phage display library of single-domain camelid V_HH antibodies directed against *Chlamydomonas reinhardtii* antigens and characterization of V_HHs binding cell surface antigens. *Plant J*, 76:709–717. [Cited 10]

14. Kobayashi N, Noel EA, Barnes A, **Rosenberg J**, DiRusso C, Black P, Oyler GA. (**2013**) Rapid detection and quantification of triacylglycerol by HPLC-ELSD in *Chlamydomonas reinhardtii* and *Chlorella* strains. *Lipids*, 48:1035–1049. (Open Access) [Cited 37]

15. †Rasala BA, Barrera DJ, Ng J, Plucinak TM, **Rosenberg JN**, Weeks DP, Oyler GA, Peterson TC, Haerizadeh F, Mayfield SP. (**2013**) Expanding the spectral palette of fluorescent proteins for the green microalga *Chlamydomonas reinhardtii*. *Plant J*, 74:545–556. [Cited 129] ***Cover Feature***

16. Wan M, Faruq J, **Rosenberg JN**, Xia J, Oyler GA, Betenbaugh MJ. (**2012**) Achieving high throughput sequencing of cDNA library utilizing an alternative protocol for the bench top next-generation sequencing system. *J Microbiol Methods*, 92:122–126. [Cited 4]

17. Wan M, Wang R, Xia J, **Rosenberg JN**, Nie Z, Kobayashi N, Oyler GA, Betenbaugh MJ. (**2012**) Physiological and genetic evaluation of a new *Chlorella sorokiniana* isolate for its biomass production and lipid accumulation in photoautotrophic and heterotrophic cultures. *Biotechnol Bioeng*, 109:1958–1964. [Cited 77]

Peer-Reviewed Papers (continued)

18. †**Rosenberg JN**, Mathias A, Korth K, Betenbaugh MJ, Oyler GA. (**2011**) Microalgal biomass production and CO_2 sequestration from an integrated ethanol biorefinery in Iowa: technical appraisal and economic feasibility evaluation. *Biomass Bioenerg*, 35:3865–3876. [Cited 116]

19. †Wan M, Liu P, Wang R, Li L, **Rosenberg JN**, Oyler GA, Betenbaugh MJ, Huang B, Xia J. (**2011**) The effect of mixotrophy on microalgal growth, lipid content, and expression levels of three pathway genes in *Chlorella sorokiniana*. *Appl Microbiol Biotechnol*, 91:835–844. [Cited 260]

20. Wan M, **Rosenberg JN**, Faruq J, Betenbaugh MJ, Xia J. (**2011**) An improved colony PCR procedure for genetic screening of *Chlorella* and related microalgae. *Biotechnol Lett*, 33:1615–1619. [Cited 47]

21. Jones MB, **Rosenberg JN**, Betenbaugh MJ, Krag SS. (**2009**) Structure and synthesis of poly-isoprenoids used in N-glycosylation across the three domains of life. *Biochim Biophys Acta*, 1790:485–494. [Cited 78]

22. †**Rosenberg JN**, Oyler GA, Wilkinson L, Betenbaugh MJ. (**2008**) A green light for engineered algae: redirecting metabolism to fuel a biotechnology revolution. *Curr Opin Biotechnol*, 19:430–436. [Cited 746] ***Highly Cited Review***

23. Johnson EA, **Rosenberg J**, McCarty RE. (**2007**) Expression by *Chlamydomonas reinhardtii* of a chloroplast ATP synthase with polyhistidine-tagged beta subunits. *Biochim Biophys Acta*, 1767:374–380. [Cited 13]

Intellectual Property

Inventor of four issued patents‡ and three other patent applications.

2019‡ Mason JY, **Rosenberg JN**. Methods for inactivating mosquito larvae using aqueous chlorine dioxide treatment solutions, U.S. Patent No. 10,233,100 B2

2016‡ Corbeil LB, Hildebrand M, Shrestha R, Davis A, Oyler GA, **Rosenberg JN**. Diatom-based vaccines, U.S. Patent No. 9,358,283 B2

2016‡ Donohue MD, Betenbaugh MJ, Oyler GA, **Rosenberg JN**. Method for extraction and purification of oils from microalgal biomass using high-pressure CO_2 as a solute, U.S. Patent No. 9,359,580 B2

2015 Mason JY, **Rosenberg JN**. Methods of using chlorine dioxide for decontaminating biological contaminants, Application No. PCT/US2016/044043.

2013‡ Oyler GA, **Rosenberg JN**. Enhanced gene expression in algae, U.S. Patent No. 8,476,019 B2

2011 Oyler GA, **Rosenberg JN**, Weeks DP. Single chain antibodies for photosynthetic microorganisms and method of use, U.S. Patent Application No. 13/441,951.

2009 Betenbaugh MJ, Oyler GA, **Rosenberg JN**. Method and composition for creating cell death resistant algal cell lines, U.S. Patent Application No. 13/505,783.