

## Clinical data

PhotoniCare has developed the TOMi Scope, a handheld otoscopic imager to improve middle ear disease visualization and diagnostic accuracy. Below is a list of key clinical publications illustrating the utility of our technology. Note: PhotoniCare co-founders are indicated by bolded font.

1. Preciado D, **Nolan RM**, Joshi R, Krakovsky GM, Zhang A, Pudik NA, Kumar NK, **Shelton RL**, **Boppart SA**, Bauman NM. Otitis media middle ear effusion identification and characterization using an optical coherence tomography otoscope. *Otolaryngol Head Neck Surg*, 2020.
2. Gisselsson-Solén M, Tähtinen PA, Ryan AF, Mulay A, Kariya S, Schilder AGM, Valdez TA, Brown S, **Nolan RM**, Hermansson A, van Ingen G, Marom T. Panel 1: Biotechnology, biomedical engineering and new models of otitis media. *Int J Pediatr Otorhinolaryngol*, 2019.
3. Monroy GL, Won J, Dsouza R, Pande P, Hill MC, Porter RG, Novak MA, Spillman DR, **Boppart SA**. Automated classification platform for the identification of otitis media using optical coherence tomography. *NPJ Digit Med*, 2019.
4. Dsouza R, Won J, Monroy GL, Spillman DR, **Boppart SA**. Economical and compact briefcase spectral-domain optical coherence tomography system for primary care and point-of-care applications. *J Biomed Opt*, 2018.
5. Dsouza R, Won J, Monroy GL, Hill MC, Porter RG, Novak MA, **Boppart SA**. In vivo detection of nanometer-scale structural changes of the human tympanic membrane in otitis media. *Sci Rep*, 2018.
6. Monroy GL, Hong W, Khampang P, Porter RG, Novak MA, Spillman DR, Barkalifa R, Chaney EJ, Kerschner JE, **Boppart SA**. Direct analysis of pathogenic structures affixed to the tympanic membrane during chronic otitis media. *Otolaryngol Head Neck Surg*, 2018.
7. Park K, Cho NH, Jeon M, Lee SH, Jang JH, **Boppart SA**, Jung W, Kim J. Optical assessment of the in vivo tympanic membrane status using a handheld optical coherence tomography-based otoscope. *Acta Otolaryngol*, 2018.
8. Won J, Monroy GL, Huang PC, Dsouza R, Hill MC, Novak MA, Porter RG, Chaney EJ, Barkalifa R, **Boppart SA**. Pneumatic low-coherence interferometry otoscope to quantify tympanic membrane mobility and middle ear pressure. *Biomed Opt Express*, 2018.
9. Monroy GL, Pande P, **Nolan RM**, **Shelton RL**, Porter RG, Novak MA, Spillman DR, Chaney EJ, McCormick DT, **Boppart SA**. Noninvasive in vivo optical coherence tomography tracking of chronic otitis media in pediatric subjects after surgical intervention. *J Biomed Opt*, 2017.
10. Monroy GL, Pande P, **Shelton RL**, **Nolan RM**, Spillman DR, Porter RG, Novak MA, **Boppart SA**. Non-invasive optical assessment of viscosity of middle ear effusions in otitis media. *J Biophotonics*, 2017.
11. Pande P, **Shelton RL**, Monroy GL, **Nolan RM**, **Boppart SA**. Low-cost hand-held probe for depth-resolved low-coherence interferometry. *Biomed Opt Express*, 2017.

12. Park K, Cho NH, Jang JH, Lee SH, Kim P, Jeon M, **Boppart SA**, Kim J, Jung W. In vivo 3D imaging of the human tympanic membrane using a wide-field diagonal-scanning optical coherence tomography probe. *Appl Opt*, 2017.
13. **Shelton RL, Nolan RM**, Monroy GL, Pande P, Novak MA, Porter RG, **Boppart SA**. Quantitative pneumatic otoscopy using a light-based ranging technique. *J Assoc Res Otolaryngol*, 2017.
14. Pande P, **Shelton RL**, Monroy GL, **Nolan RM, Boppart SA**. A mosaicking approach for in vivo thickness mapping of the human tympanic membrane using low coherence interferometry. *J Assoc Res Otolaryngol*, 2016.
15. Pande P, Monroy GL, **Nolan RM, Shelton RL, Boppart SA**. Sensor-based technique for manually scanned hand-held optical coherence tomography imaging. *J Sens*, 2016.
16. Hubler Z, Shemonski ND, **Shelton RL**, Monroy GL, **Nolan RM, Boppart SA**. Real-time automated thickness measurement of the in vivo human tympanic membrane using optical coherence tomography. *Quant Imaging Med Surg* (featured cover), 2015.
17. Monroy GL, **Shelton RL, Nolan RM**, Nguyen CT, Novak MA, Hill MC, McCormick DT, **Boppart SA**. Noninvasive depth-resolved optical measurements of the tympanic membrane and middle ear for differentiating otitis media. *Laryngoscope*, 2015.
18. **Shelton RL**, Jung W, Sayegh SI, McCormick DT, Kim J, **Boppart SA**. Optical coherence tomography for advanced screening in the primary care office. *J Biophotonics* (featured cover), 2014.
19. Nguyen CT, Robinson SR, Jung W, Novak MA, **Boppart SA**, Allen JB. Investigation of bacterial biofilm in the human middle ear using optical coherence tomography and acoustic measurements. *Hear Res*, 2013.
20. Nguyen CT, Jung W, Kim J, Chaney EJ, Novak MA, Stewart CN, **Boppart SA**. Noninvasive in vivo optical detection of biofilm in the human middle ear. *Proc Natl Acad Sci USA*, 2012.