

# Vinoi Devpaul Vincely

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## PUBLICATIONS

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1. **Vincely, V. D.** and Bayer, C. L. (2024). *Photoacoustic Imaging of Rat Kidney Tissue Oxygenation using NIR-II Wavelengths*, Journal of Biomedical Optics [**Under Review**]
2. **Vincely, V. D.**, Zhong, X., Huda, K., Katakam, S. P., Kays, J. C., Dennis, A. M. and Bayer, C. L. (2024). *Bornite ( $\text{Cu}_5\text{FeS}_4$ ) nanocrystals as an ultrasmall biocompatible NIR-II contrast agent for photoacoustic imaging*, Photoacoustics, <https://doi.org/10.1016/j.pacs.2024.100649>
3. **Vincely, V. D.** and Bayer, C. L. (2024). *Improved Spectral Inversion of Blood Oxygenation due to Reduced Tissue Scattering: Towards NIR-II Photoacoustic Imaging*, BioRxiv: Preprint Server, <https://doi.org/10.1101/2024.08.08.607178>
4. Manuel, L. D. B., **Vincely, V. D.**, Bayer, C. L., and McPeak, K. M., (2023) *Monodisperse Sub-100 nm Au Nanoshells for Low-Fluence Deep-Tissue Photoacoustic Imaging*, Nano Letters, <https://doi.org/10.1021/acs.nanolett.3c01696>.
5. **Vincely, V. D.**, and Bayer, C. L., (2023) *Functional photoacoustic imaging for placental monitoring: A mini review*, IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 10.1109/TUFFC.2023.3263361.
6. **Vincely, V. D.**, Katakam, S. P., Huda, K., Zhong, X., Kays, J. C., Dennis, A. M. and Bayer, C. L. (2023). *Biodegradable and biocompatible semiconductor nanocrystals as NIR-II photoacoustic imaging contrast agents.*, Photons Plus Ultrasound: Imaging and Sensing 2023, 12379, <https://doi.org/10.1117/12.2646501>.
7. **Vincely, V. D.**, and Vishwanath, K., (2022) *Accuracy of retrieving optical properties from liquid tissue phantoms using a single integrating sphere*, Applied Optics, 61(2), p. 375-385, [doi.org/10.1364/AO.443854](https://doi.org/10.1364/AO.443854).
8. **Vincely, V. D.** and Vishwanath, K. (2020). *Lateral light losses in measurement of reflectance and transmittance using an Integrating Sphere: comparison of Monte Carlo with the adding-doubling algorithm.*, Design and Quality for Biomedical Technologies XIII, 11231, [doi.org/10.1117/12.2546265](https://doi.org/10.1117/12.2546265).
9. Reigle, A., Mason, K., Slattery, J., Lee, S., Jamison, T., Eggert, A., **Vincely, V.**, Wong, D., Guo, Y., Brock, J., and Khan, M. (2019). *Superconducting properties of In doped  $\text{ZrNi}_2\text{Ga}_{1-x}\text{In}_x$* , Solid State Communications, 291, p.28-31, [doi:10.1016/j.ssc.2019.01.015](https://doi.org/10.1016/j.ssc.2019.01.015).
10. **Vincely, V.** and Vishwanath, K. (2018). *Extracting broadband optical properties from uniform optical phantoms using an integrating sphere and inverse adding-doubling.*, Design and Quality for Biomedical Technologies XI, 10486, [doi:10.1117/12.2291950](https://doi.org/10.1117/12.2291950).
11. Eaton, A., **Vincely, V.**, Lloyd, P., Hugenberg, K., Vishwanath, K. (2017). *The reliability and accuracy of estimating heart-rates from RGB video recorded on a consumer grade camera.*, Optics and Biophotonics in Low-Resource Settings III, 10055, [doi:10.1117/12.2252629](https://doi.org/10.1117/12.2252629).

## CONFERENCES/PRESENTATIONS

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1. **Vincely, V. D.** (2024), *Methods for Spectral Photoacoustic Imaging of Deep Tissue Oxygenation Using NIR-2 Wavelengths*, Miami University, Department of Physics Seminar.
2. **Vincely, V. D.** and Bayer, C. L., (2024), *Demonstration of deeper photoacoustic imaging of in vivo rat vasculature using near infrared-2 wavelengths of light*, Tulane Research, Innovation, and Creativity Summit (TRICS). [**Primary presenter: poster**].
3. **Vincely, V. D.**, Bavishi, S., Meadows, S. and Bayer, C. L., (2023). *Photoacoustic Tomography to Monitor Whole-Body Vascular Malformations in a SMAD4 knockout model of HHT*. NAVBO: In-Focus Webinar. [**Invited Talk**].
4. **Vincely, V. D.**, Huda, K., Zhong, X., Dennis, A. M. and Bayer, C. L. (2023). *A novel biocompatible and biodegradable NIR-2 agent for in-vivo photoacoustic imaging to improve overall image contrast*, International Ultrasound Symposium. [**Primary Presenter**].
5. **Vincely, V. D.**, Bavishi, S., Meadows, S. and Bayer, C. L., (2023). *Photoacoustic Tomography to Monitor Whole-Body Vascular Malformations in a SMAD4 knockout model of HHT*. NAVBO Vasculata 2023. [**Primary Presenter: Poster**].
6. **Vincely, V. D.** (2023), *A novel NIR-2 PA contrast agent suited for in vivo applications*. Scintica Webinar Series [**Invited Webinar**].
7. **Vincely, V. D.**, and Bayer, C. L. (2023). *Simulations-informed optimization of photoacoustic imaging depth and validation with phantoms*, Photons Plus Ultrasound: Imaging and Sensing 2023, PC12379, <https://doi.org/10.1117/12.2649371>. [**Primary Presenter: Poster**].
8. **Vincely, V. D.**, Katakam, S., Zhong, X., Kays, J., Dennis, A., and Bayer, C. L., (2023), *Biodegradable and biocompatible semiconductor nanocrystals as NIR-II photoacoustic imaging contrast agents*, Tulane Research, Innovation, and Creativity Summit (TRICS). [**Primary presenter: poster**].
9. Manuel, L., **Vincely, V. D.**, Bayer, C.L., and McPeak, K.M. (2022), *Ultrasmall SiO<sub>2</sub>@Au Nanoshells for Photothermal Nano-Theranostic and -Therapeutic Applications*, Materials Research Society (MRS) Fall Meeting.
10. Katakam, S. P., **Vincely, V. D.**, and Bayer, C.L., (2022), *Improved Photoacoustic Signal Stability in Melanin Phantom with NIR-II Wavelengths*, BMES Conference: Biomedical Imaging and Instrumentation.
11. **Vincely, V. D.**, and Bayer, C.L., (2022), *Improved estimation of hemoglobin oxygen saturation derived from spectral photoacoustic images within NIR-II*, Gordon Conference on In Vivo Ultrasound Imaging. [**Primary presenter: poster**].
12. **Vincely, V. D.**, Katakam, S., Kays, J., Dennis, A., and Bayer, C.L., (2022), *Deeper photoacoustic imaging in tissue using an NIR-II contrast agent*, Biophotonics Congress: Biomedical Optics - Clinical and Translational Biophotonics. Paper no. TW4B.3. [**Primary presenter**].
13. **Vincely, V. D.**, Katakam, S., Kays, J., Dennis, A., and Bayer, C.L., (2022), *Deep Tissue Photoacoustic Imaging Using Biocompatible NIR-II Contrast Agents*, Tulane's Health Sciences Research Days. [**Primary presenter: poster**].

14. **Vincely, V. D.** (2021), *Comparative Evaluation of a NIR-II Nanoparticle with and Without the Legion Amp*, PhotoSound Technologies: Legion AMP webinar series [**Invited Webinar**].
15. **Vincely, V. D.** and Vishwanath, K. (2019). *A numerical analysis of the impact of finite sample dimensions on calculated reflectance and transmittance of thin turbid samples: Adding-Doubling vs Monte-Carlo methods*. OSAPS Annual Meeting, Fall 2019. [**Primary presenter**].
16. Kumar, M., Rollins, S., **Vincely, V. D.**, Vishwanath, K., Bali, L. and Bali, S. (2019). *Fresnel-based measurement of Complex Refractive Index in Turbid Media: Comparison with Mie Calculations..* Frontiers in Optics (FiO), September 2019.
17. **Vincely, V. D.** and Vishwanath, K. (2018). *Investigating the accuracy of the Inverse-Adding Doubling (IAD) algorithm & Integrating Sphere (IS) in measuring broadband optical properties*. Graduate Research Forum (GRF), Miami University. [**Primary presenter**].
18. **Vincely, V. D.** and Vishwanath, K. (2017). *Extracting optical coefficients using an integrating sphere and inverse adding-doubling algorithm*. OSAPS Annual Meeting, Fall 2017. [**Primary presenter: poster**].
19. **Vincely, V. D.** and Vishwanath, K. (2016). *Extracting optical coefficients using an integrating sphere and inverse adding-doubling algorithm*. Discover the Sciences. [**Primary presenter: poster**].
20. **Vincely, V. D.** and Vishwanath, K. (2016). *Extracting optical coefficients using an integrating sphere and inverse adding-doubling algorithm*. Undergraduate Research Forum (URF), Miami University. [**Primary presenter: poster**].