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## Allah 's wondrous creatures , the Holy Qur'an and technological inventions : Ultrasound imaging (Article)

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## Abstract

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Allah (s.w.t) has created innumerable distinct creatures and mentioned to us about their special qualities through His revelation. The Qur'an is the ultimate source of guidance for its followers for all aspects of life including science. If one is to study nature scientifically there are countless observable facts that are parallel to the teachings of Islam. One of these facts is echolocation found in bats and dolphins. These animals generate ultrasonic signals and detect the echoes reflected back to them to map out their environment and catch prey. Modern health sciences have already adopted this phenomenon in the form of ultrasound imaging for diagnosis of certain diseases. However, there is room for improvement in the overall performance of this technique. This article highlights the technological developments directly inspired by nature i.e., crawfish/crayfish and relates echolocation characteristics of bats and dolphins with basic principles of ultrasound imaging . In-depth studies on the echolocation properties of these creatures can lead to further improvement in the current ultrasound imaging technique. Such as; the construction of a transducer which simultaneously generates multi-frequency ultrasound signals and development of new interpreting software. Moreover, reading verses of the Holy Qur'an heartily and enthusiastically will lead to the development of innovative ideas that can be translated into reality and applied for the betterment of humankind. © 2019 Default.

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- 
- 2 Munirah, S., Zainul Ibrahim, Z., Rozlin, A.R., Mohd Yusof, M., Norhamiza, M.S., Noorhidayah, M.N., M. Aa'zamuddin, A.R.  
Exploring the Islamic perspective on tissue engineering principles and practice  
(2014) Global Journal Al-Thaqafah, 4 (2), pp. 29-40. Cited 2 times.  
<http://www.gjat.my/gjat122014/6420140402.pdf>  
View at Publisher
- 
- 3 Muhammad, M.H.M.  
The Qur'an and the Scientific Spirit: An exploration of Key Issues  
(2015) Revelation and Science, 5, pp. 34-46.
- 
- 4 Salam, A.  
Islam and Science-Concordance or Conflict?  
(1984) UNESCO House Paris  
[www.alislam.org/library/.//Islam-and-Science-Concordance-or-Conflict](http://www.alislam.org/library/.//Islam-and-Science-Concordance-or-Conflict)
- 
- 5 Bucaille, M.  
(1995) The Qur'an and Modern Science. Cited 2 times.  
edt, Philips AAB  
<http://www.sultan.org/articles/QScience.html>
- 
- 6 Machinery, H.C.  
(2010) Toward a prosperous future: The future of construction machinery seen through the development of twin arm machinery, pp. 13-14.  
CSR Report  
<https://www.hitachicm.com/global/pdf/generator/company/csr/report10/08.pdf>
- 
- 7 Xu, L., Marie-Laurence, T., Kathleen, E.O.  
Roles of Spider Wrapping Silk Protein Domains in Fibre Property  
(2015) Biophysical Journal, 108.  
[http://www.cell.com/biophysj/abstract/S0006-3495\(14\)03858-2](http://www.cell.com/biophysj/abstract/S0006-3495(14)03858-2)
- 
- 8 Sarah, F.  
(2012)  
<http://www.popularmechanics.com/science/health/g741/6-spider-silk-superpowers/?slide=1-7>
- 
- 9 Saravanan, D.  
Spider silk - Structure, properties and spinning  
(2006) Journal of Textile and Apparel, Technology and Management, 5 (1). Cited 27 times.  
[http://www.tx.ncsu.edu/jtatm/volume5issue1/Articles/Saravanan/Saravanan\\_Full\\_170\\_05.pdf](http://www.tx.ncsu.edu/jtatm/volume5issue1/Articles/Saravanan/Saravanan_Full_170_05.pdf)
- 
- 10 Griffin, D.R.  
(1958) Listening in the Dark. Cited 831 times.  
2nd ed. New Haven, Connecticut: Yale University Press

- 
- 11 Griffin, D.R.  
(1959) *Echoes of Bats and Men*. Cited 13 times.  
New York: Anchor Books Doubleday
- 
- 12 Altringham, J.D.  
(1996) *Bats: Biology and Behaviour*. Cited 290 times.  
Oxford: Oxford University Press
- 
- 13 Grinnell, A.D.  
Hearing in bats: An overview  
(1995) 'Hearing by Bats'. Cited 37 times.  
In Popper AN and Fay RR, eds . Springer-Verlag;
- 
- 14 Cetaceans, W.B.  
(1989) *Science*, 244, pp. 1550-1557.  
New Series
- 
- 15 Starkhammar, J., Moore, P.W., Talmadge, L., Houser, D.S.  
**Frequency-dependent variation in the twodimensional beam pattern of an echolocating dolphin** ([Open Access](#))  
  
(2011) *Biology Letters*, 7 (6), pp. 836-839. Cited 20 times.  
<http://rsbl.royalsocietypublishing.org/content/7/6/836.full.pdf+html>  
doi: 10.1098/rsbl.2011.0396  
  
[View at Publisher](#)
- 
- 16 Jensen, F.H., Rocco, A., Mansur, R.M., Smith, B.D., Janik, V.M., Madsen, P.T.  
**Clicking in Shallow Rivers: Short-Range Echolocation of Irrawaddy and Ganges River Dolphins in a Shallow, Acoustically Complex Habitat** ([Open Access](#))  
  
(2013) *PLoS ONE*, 8 (4), art. no. e59284. Cited 30 times.  
<http://www.plosone.org/article/fetchObjectAttachment.action?uri=info%3Adoi%2F10.1371%2Fjournal.pone.0059284&representation=PDF>  
doi: 10.1371/journal.pone.0059284  
  
[View at Publisher](#)
- 
- 17 Edler, I., Lindström, K.  
**The history of echocardiography**  
  
(2004) *Ultrasound in Medicine and Biology*, 30 (12), pp. 1565-1644. Cited 57 times.  
[www.elsevier.com/locate/ultrasmedbio](http://www.elsevier.com/locate/ultrasmedbio)  
doi: 10.1016/S0301-5629(99)00056-3  
  
[View at Publisher](#)
- 
- 18 Chan, V.W.S.  
**Foreword**  
  
(2011) *Atlas of Ultrasound-Guided Procedures in Interventional Pain Management*, pp. vii-viii.  
<http://www.springerlink.com/openurl.asp?genre=book&isbn=978-1-4419-1679-2>  
ISBN: 978-144191679-2  
doi: 10.1007/978-1-4419-1681-5  
  
[View at Publisher](#)

---

□ 19 Otto, C.M.  
Principles of echocardiographic image acquisition and Doppler analysis  
(2000) In: Textbook of Clinical Echocardiography, pp. 1-29. Cited 23 times.  
2nd ed. Philadelphia: WB Saunders

---

□ 20 Intrator, N., Simmons, J.  
(2011) Bats, dolphins, and mole rats inspire advances in ultrasound technology  
American Friends of Tel Aviv University. ScienceDaily, 15 November  
[www.sciencedaily.com/releases/2011/11/111114112240.htm](http://www.sciencedaily.com/releases/2011/11/111114112240.htm)

---

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