Cited

Abrams, Michael. "CAN YOU SEE WITH YOUR TONGUE?" *Discover.* Vol. 24 Issue 6, p52. 6p. Jun2003. ISSN: 0274-7529. Accession Number: 9742811

Caruso, Catherine. "The Beauty of 'Mini Brains." *Scientific American Mind*, vol. 28, no. 3, May 2017, p.76. Academic Search Premier doi:10.1038/scientificamericanmind0517-76. Accessed Oct 1st, 2021.

Coghlan, Andy. "Miniature Human Brains With Their Own Blood Vessels Grown in Lab". *New Scientist*, vol. 238, no. 3173, Apr 4th, 2018, p. 20. Academic Search Premier doi:10.1016/S0262-4079(18)30652-3.

Eagleman, David. "Deciphering Sounds Through Patterns of Vibration on the Skin". Neuroscience, https://eagleman.com/wp-content/upload//2021/Perrottaetal 2021_ DecipheringSounds_Neuroscience.pdf. International Brain Research Organization. Volume 458, 15 March 2021, Pages 77-86. Science Direct. Accessed Oct 25th, 2021

Fikes, Bradley, "Focus: New machines can sequence human genome in one hour, Illumina announces". *The San Diego Union-Tribune*, https://www.sandiegouniontribune.com/business/biotech/sd-me-illumina-novaseq -20170109-story.html Jan. 9, 2017. Accessed Oct 17th, 202

Gamillo, Elizabeth. "Mini Brains Grown From Stem Cells Developed Light-Sensitive, Eye-Like Features". *Smithsonian Magazine*, https://www.smithsonianmag.com/smart-news/mini-brains-grown-stem-cells-deve loped-eyes-can-sense-light-180978478/. Daily Correspondent, August 19, 2021, Smart News. Accessed Oct 17th, 2021

Goldman, Bruce. "Brain Balls Tiny lab-grown Blobs Could Aid Understanding of Psychiatric and Neurological Disease." *Stanford Medicine*, vol. 35, no. 1, Winter 2018, pp. 14–43.

ezproxy2.library.colostate.edu/login.aspx?direct=true&AuthType=cookie,ip,url,cpi dcustid =s4640792&db=aph&AN=128574947&site=ehost-live. Out There. Accessed Oct 1st, 2021

Greshko, Michael. "Pig brains partially revived hours after death—what it means for people". April 17, 2019. *National Geographic*,

https://www.nationalgeographic.com/science/article/pig-brains-partially-revived-w hat-it-means-for-medicine-death-ethics. Accessed October 29th, 2021

Hastings, Conn. "3D Printed Microfluidic Bioreactor for Brain Organoid Culture". *Medgadget*,

https://www.medgadget.com/2021/04/3d-printed-microfluidic-bioreactor-for-brainorganoid-culture.html, April 8th, 2021. Accessed Oct 10th, 2021

Hooper, Rowan. "First Steps to Lab-Grown Brain Tissue." *New Scientist*, vol. 220, no. 2947, Dec. 2013, p.14. Academic Search Premier doi:10.1016/S0262-4079(13)62884-5.

Hamilton, Jon. "After Months In A Dish, Lab-Grown Minibrains Start Making 'Brain Waves'" *National Public Radio*,

https://www.npr.org/sections/health-shots/2019/08/29/755410121/after-months-in-a-dish-lab-grown-minibrains-start-making-brain-waves. All things considered. August 29th, 2019. Accessed Oct 10th, 2021

Hurst, Nathan. "How Does Human Echolocation Work?" *Smithsonian Magazine*, https://www.smithsonianmag.com/innovation/how-does-human-echolocation-work-180965063/ October 2nd, 2017.

Johnson, Carolyn. "Lab-grown brain bits open windows to the mind — and a maze of ethical dilemmas". *The Washington Post*,

https://www.washingtonpost.com/national/health-science/lab-grown-brain-bits-op en-windows-to-the-mind--and-a-maze-of-ethical-dilemmas/2018/09/02/9a76efee-a25b-11e8-83d2-70203b8d7b44_story.html September 2, 2018. Accessed Oct 15th, 2021.

Keller, Kate. "Could This Futuristic Vest Give Us a Sixth Sense?" *Smithsonian Magazine*,

https://www.smithsonianmag.com/innovation/could-this-futuristic-vest-give-us-sixt h-sense-180968852/ April 20th, 2018. Accessed Oct 19th, 2021

Lancaster, Madaline. "'Mini-Brains': How an Unexpected Discovery Led to a Groundbreaking Protocol". Stem Cell Technologies,

https://www.stemcell.com/madeline-lancaster.html. Accessed Oct 29th, 2021

Marcus, Gary. "Grow a Brain, Already". *The New Yorker,* https://www.newyorker.com/tech/annals-of-technology/grow-a-brain-already. August 30, 2013. Accessed Oct 11th, 2021.

Owen, A.M. Improving diagnosis and prognosis in disorders of consciousness. Brain, 143(4): 1050–1053, 2020.

Pavlus, John. "Lab-Grown Spare Parts for Brains." *Scientific American Mind*, vol. 26, no. 5, Sept. 2015, p. 15. EBSCOhost, doi:10.1038/scientificamericanmind0915-15.

Pearlman, Alex. "Thinking Ahead." *New Scientist*, vol. 238, no. 3176, May 2018, pp. 26–27. Academic Search Premier doi:10.1016/S0262-4079(18)30794-2.

Petrini, Karen. "Efficiency of Sensory Substitution Devices Alone and in Combination With Self-Motion for Spatial Navigation in Sighted and Visually Impaired". *Frontiers in Psychology,* https://www.

frontiersin.org/articles/10.3389/fpsyg.2020.01443/full. Front. Psychol., 10 July 2020. https://doi.org/10.3389/fpsyg.2020.01443

Pietila, Antero. "In Need of Cadavers, 19th-Century Medical Students Raided Baltimore's Graves". *Smithsonian Magazine. History,*

https://www.smithsonianmag.com/history/in-need-cadavers-19th-century-medical-students-raided-baltimores-graves-180970629/. October 25, 2018. Accessed Oct 27th, 2021

Reardon, Sara. "Can Lab-Grown Brains Become Conscious?" *Nature*, https://www.nature.com/articles/d41586-020-02986-y. October 27th, 2020. News Feature. Accessed Oct 1st, 2021

Sanchez-Aguilera, Alberto, and Liset Menendez de la Prida. "The Beauty and the Dish: Brain Organoids Go Active." *Epilepsy Currents,* vol. 20, no. 2, Mar. 2020, pp. 105–107. EBSCOhost, doi:10.1177/1535759720901502.

Saplakoglu, Yasemin. "Lab-made mini brains grow their own sets of 'eyes'". *Live Science*, https://www.livescience.com/brain-organoid-optic-eyes.html, August 18, 2021.

Schmidt, Megan. "Scientists Grow Mini-Brains With Recognizable Brainwaves". *Discover Magazine*,

https://www.discovermagazine.com/mind/scientists-grow-mini-brains-with-recogni zable-brainwaves, Aug 29, 2019. Accessed Oct 2nd, 2021

Zagorski, Nick. "Are Brain Organoids the Next Big Thing?" *Psychiatry Online*, https://psychnews.psychiatryonline.org/doi/10.1176/appi.pn.2021.2.11. April 27th 2021, https://doi.org/10.1176/appi.pn.2021.2.11. Accessed Oct 3rd, 2021

Youtube,

https://www.youtube.com/watch?v=4fygTjFQOd8ab_channel=UniversityofCalifornia

Television%28UCTV%29. Recorded on 10/04/2019. [Show ID: 35249]. The Ethics of Brain Organoids with Alysson Muotri Christof Koch Patricia Churchland Evan Thompson. Posted Nov 17, 2019. University of California Television (UCTV). Accessed Oct 27th, 2021.

Cleber A. Trujillo, Richard Gao, Priscilla D. Negraes, Jing Gu, Justin Buchanan, Sebastian Preissl, Allen Wang, Wei Wu, Gabriel G. Haddad, Isaac A. Chaim, Alain Domissy, Matthieu Vandenberghe, Anna Devor, Gene W. Yeo, Bradley Voytek, Alysson R. Muotri Complex Oscillatory Waves Emerging from Cortical Organoids Model Early Human Brain Network Development Cell stem cell (2019) doi: 10.1016/j.stem.2019.08.002

https://www.technologyreview.com/2019/04/10/136131/chinese-scientists-have-put-human-brain-genes-in-monkeysand-yes-they-may-be-smarter/,

Chinese scientists have put human brain genes in monkeys—and yes, they may be smarter, A quest to understand how human intelligence evolved raises some ethical questions.

By Antonio Regalado, archive page_April 10, 2019

https://www.buffalo.edu/news/releases/2015/08/006.html

University at Buffalo, News Center, Scientists grow human serotonin neurons in petri dish,

https://www.youtube.com/watch?v=2-sIOLvBWM0&ab channel=NASJAQ

How These Brain Cells In a Petri Dish Played Pong! (Cortical Labs Startup)

ACM TechNews, By DailyMail.com, December 30, 2021, Human Induced Cells Grown in Petri Dish Learn to Play Pong Faster Than AI, https://cacm.acm.org/news/257622-human-induced-cells-grown-in-petri-dish-lear n-to-play-pong-faster-than-ai/fulltext

https://www.nationalgeographic.com/science/article/100616-brain-cells-time-science, Brain Cells in a Dish Keep Time, Networks of brain cells in the laboratory can be trained to track time—suggesting we're not ruled by one master clock, a new study says. ByCharles Q. Choifor National Geographic News, Published June 18, 2010

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3516892/

Millet LJ, Gillette MU. Over a century of neuron culture: from the hanging drop to microfluidic devices. Yale J Biol Med. 2012 Dec;85(4):501-21. Epub 2012 Dec 13. PMID: 23239951; PMCID: PMC3516892.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3863365/, Zhao J, Jiang WJ, Sun C, Hou CZ, Yang XM, Gao JG. Induced pluripotent stem cells: origins, applications, and future perspectives. J Zhejiang Univ Sci B. 2013 Dec;14(12):1059-69. doi: 10.1631/jzus.B1300215. PMID: 24302707; PMCID: PMC3863365.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2810037/, Freund C, Davis RP, Gkatzis K, Ward-van Oostwaard D, Mummery CL. The first reported generation of human induced pluripotent stem cells (iPS cells) and iPS cell-derived cardiomyocytes in the Netherlands. Neth Heart J. 2010 Jan;18(1):51-4. PMID: 20111645; PMCID: PMC2810037.

Probably all repeats? Not sure.

Cited

Abrams, Michael. "CAN YOU SEE WITH YOUR TONGUE?" *Discover.* Vol. 24 Issue 6, p52. 6p. Jun2003. ISSN: 0274-7529. Accession Number: 9742811

Caruso, Catherine. "The Beauty of 'Mini Brains." *Scientific American Mind*, vol. 28, no. 3, May 2017, p.76. Academic Search Premier doi:10.1038/scientificamericanmind0517-76. Accessed Oct 1st, 2021.

Coghlan, Andy. "Miniature Human Brains With Their Own Blood Vessels Grown in Lab". *New Scientist*, vol. 238, no. 3173, Apr 4th, 2018, p. 20. Academic Search Premier doi:10.1016/S0262-4079(18)30652-3.

Eagleman, David. "Deciphering Sounds Through Patterns of Vibration on the Skin". Neuroscience, https://eagleman.com/wp-content/upload//2021/Perrottaetal 2021_ DecipheringSounds_Neuroscience.pdf. International Brain Research Organization. Volume 458, 15 March 2021, Pages 77-86. Science Direct. Accessed Oct 25th, 2021

Fikes, Bradley, "Focus: New machines can sequence human genome in one hour, Illumina announces". *The San Diego Union-Tribune*, https://www.sandiegouniontribune.com/business/biotech/sd-me-illumina-novaseq -20170109-story.html Jan. 9, 2017. Accessed Oct 17th, 202

Gamillo, Elizabeth. "Mini Brains Grown From Stem Cells Developed Light-Sensitive, Eye-Like Features". *Smithsonian Magazine*, https://www.smithsonianmag.com/smart-news/mini-brains-grown-stem-cells-deve loped-eyes-can-sense-light-180978478/. Daily Correspondent, August 19, 2021, Smart News. Accessed Oct 17th, 2021

Goldman, Bruce. "Brain Balls Tiny lab-grown Blobs Could Aid Understanding of Psychiatric and Neurological Disease." *Stanford Medicine*, vol. 35, no. 1, Winter 2018, pp. 14–43.

ezproxy2.library.colostate.edu/login.aspx?direct=true&AuthType=cookie,ip,url,cpi dcustid =s4640792&db=aph&AN=128574947&site=ehost-live. Out There. Accessed Oct 1st, 2021

Greshko, Michael. "Pig brains partially revived hours after death—what it means for people". April 17, 2019. *National Geographic*,

https://www.nationalgeographic.com/science/article/pig-brains-partially-revived-w hat-it-means-for-medicine-death-ethics. Accessed October 29th, 2021

Hastings, Conn. "3D Printed Microfluidic Bioreactor for Brain Organoid Culture". *Medgadget*,

https://www.medgadget.com/2021/04/3d-printed-microfluidic-bioreactor-for-brainorganoid-culture.html, April 8th, 2021. Accessed Oct 10th, 2021

Hooper, Rowan. "First Steps to Lab-Grown Brain Tissue." *New Scientist*, vol. 220, no. 2947, Dec. 2013, p.14. Academic Search Premier doi:10.1016/S0262-4079(13)62884-5.

Hamilton, Jon. "After Months In A Dish, Lab-Grown Minibrains Start Making 'Brain Waves'" *National Public Radio*,

https://www.npr.org/sections/health-shots/2019/08/29/755410121/after-months-in-a-dish-lab-grown-minibrains-start-making-brain-waves. All things considered. August 29th, 2019. Accessed Oct 10th, 2021

Hurst, Nathan. "How Does Human Echolocation Work?" *Smithsonian Magazine*, https://www.smithsonianmag.com/innovation/how-does-human-echolocation-wor k-180965063/ October 2nd, 2017.

Johnson, Carolyn. "Lab-grown brain bits open windows to the mind — and a maze of ethical dilemmas". *The Washington Post*,

https://www.washingtonpost.com/national/health-science/lab-grown-brain-bits-op en-windows-to-the-mind--and-a-maze-of-ethical-dilemmas/2018/09/02/9a76efee-a25b-11e8-83d2-70203b8d7b44_story.html September 2, 2018. Accessed Oct 15th, 2021.

Keller, Kate. "Could This Futuristic Vest Give Us a Sixth Sense?" *Smithsonian Magazine*,

https://www.smithsonianmag.com/innovation/could-this-futuristic-vest-give-us-sixt h-sense-180968852/ April 20th, 2018. Accessed Oct 19th, 2021

Lancaster, Madaline. "'Mini-Brains': How an Unexpected Discovery Led to a Groundbreaking Protocol". Stem Cell Technologies,

https://www.stemcell.com/madeline-lancaster.html. Accessed Oct 29th, 2021

Marcus, Gary. "Grow a Brain, Already". *The New Yorker,* https://www.newyorker.com/tech/annals-of-technology/grow-a-brain-already. August 30, 2013. Accessed Oct 11th, 2021.

Owen, A.M. Improving diagnosis and prognosis in disorders of consciousness. Brain, 143(4): 1050–1053, 2020.

Pavlus, John. "Lab-Grown Spare Parts for Brains." *Scientific American Mind*, vol. 26, no. 5, Sept. 2015, p. 15. EBSCOhost, doi:10.1038/scientificamericanmind0915-15.

Pearlman, Alex. "Thinking Ahead." *New Scientist,* vol. 238, no. 3176, May 2018, pp. 26–27. Academic Search Premier doi:10.1016/S0262-4079(18)30794-2.

Petrini, Karen. "Efficiency of Sensory Substitution Devices Alone and in Combination With Self-Motion for Spatial Navigation in Sighted and Visually Impaired". *Frontiers in Psychology,* https://www.

frontiersin.org/articles/10.3389/fpsyg.2020.01443/full. Front. Psychol., 10 July 2020. https://doi.org/10.3389/fpsyg.2020.01443

Pietila, Antero. "In Need of Cadavers, 19th-Century Medical Students Raided Baltimore's Graves". *Smithsonian Magazine. History,*

https://www.smithsonianmag.com/history/in-need-cadavers-19th-century-medical-students-raided-baltimores-graves-180970629/. October 25, 2018. Accessed Oct 27th, 2021

Reardon, Sara. "Can Lab-Grown Brains Become Conscious?" *Nature*, https://www.nature.com/articles/d41586-020-02986-y. October 27th, 2020. News Feature. Accessed Oct 1st, 2021

Sanchez-Aguilera, Alberto, and Liset Menendez de la Prida. "The Beauty and the Dish: Brain Organoids Go Active." *Epilepsy Currents,* vol. 20, no. 2, Mar. 2020, pp. 105–107. EBSCOhost, doi:10.1177/1535759720901502.

Saplakoglu, Yasemin. "Lab-made mini brains grow their own sets of 'eyes'". *Live Science*, https://www.livescience.com/brain-organoid-optic-eyes.html, August 18, 2021.

Schmidt, Megan. "Scientists Grow Mini-Brains With Recognizable Brainwaves". *Discover Magazine*,

https://www.discovermagazine.com/mind/scientists-grow-mini-brains-with-recogni zable-brainwaves, Aug 29, 2019. Accessed Oct 2nd, 2021

Zagorski, Nick. "Are Brain Organoids the Next Big Thing?" *Psychiatry Online*, https://psychnews.psychiatryonline.org/doi/10.1176/appi.pn.2021.2.11. April 27th 2021, https://doi.org/10.1176/appi.pn.2021.2.11. Accessed Oct 3rd, 2021

Youtube.

https://www.youtube.com/watch?v=4fygTjFQOd8ab_channel=UniversityofCalifornia

Television%28UCTV%29. Recorded on 10/04/2019. [Show ID: 35249]. The Ethics of Brain Organoids with Alysson Muotri Christof Koch Patricia Churchland Evan Thompson. Posted Nov 17, 2019. University of California Television (UCTV). Accessed Oct 27th, 2021.

https://www.discovermagazine.com/mind/meet-the-scientists-connecting-lab-grown-mini-brains-to-robots, Meet The Scientists Connecting Lab-Grown "Mini Brains" to Robots, By Lacy Schley, Nov 2, 2018 2:30 PM

https://www.ncbi.nlm.nih.gov/books/NBK361016/, Last Update: June 18, 2020,

https://www.scientificamerican.com/article/antidepressants-do-they-work-or-dont-they/, Mind & Brain

Antidepressants: Do They "Work" or Don't They? A new study finds little difference between pill and placebo, By John Kelley on March 2, 2010

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https://theconversation.com/antidepressants-may-not-be-as-effective-as-we-thought-and-shouldnt-be-the-only-treatment-for-depression-59236

https://nationalpost.com/health/worlds-first-human-head-transplant-successfully-performed-on-a-corpse-scientists-say, World's first human head transplant successfully performed on a corpse, scientists say 'A full head swap between brain dead organ donors is the next stage.... We stand on the brink of a revolution, not only in medicine but in human life', Author of the article: Sharon Kirkey, Publishing date: Nov 17, 2017,

https://www.independent.co.uk/news/science/head-transplant-rat-china-sergio-canavero-xiaoping-ren-a7709161.html, Saturday 29 April 2017, Will Worley. Independent.