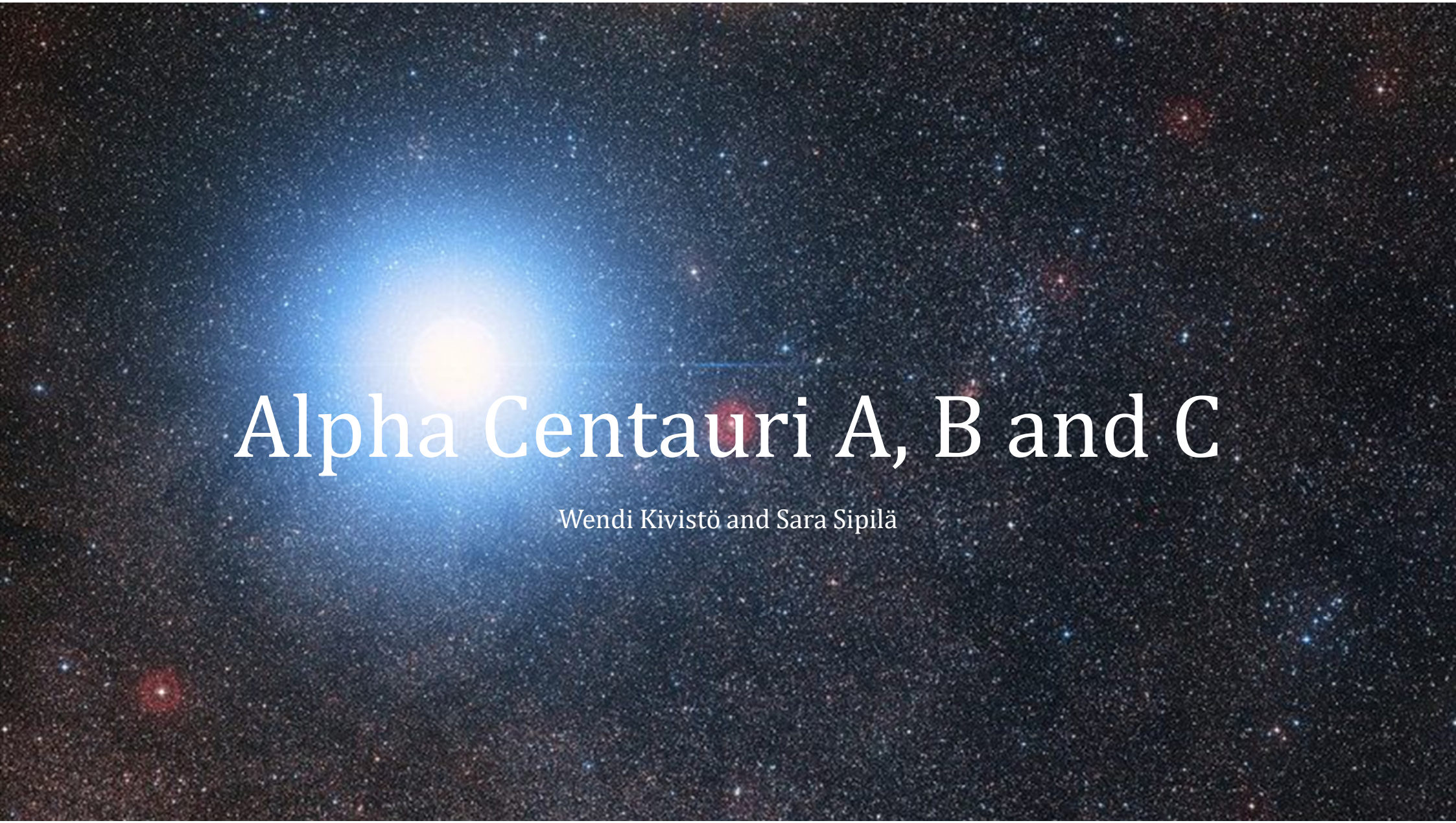
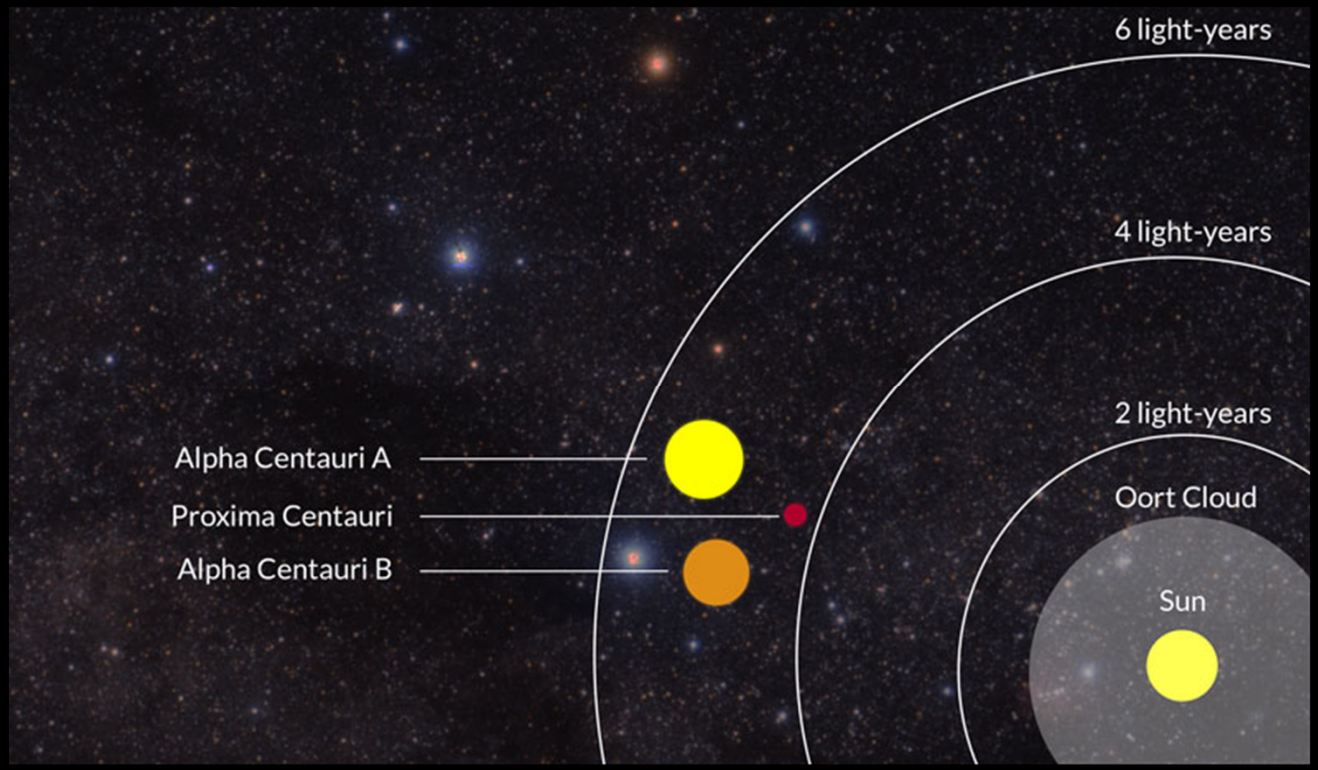


Alpha Centauri A, B and C

Wendi Kivistö and Sara Sipilä

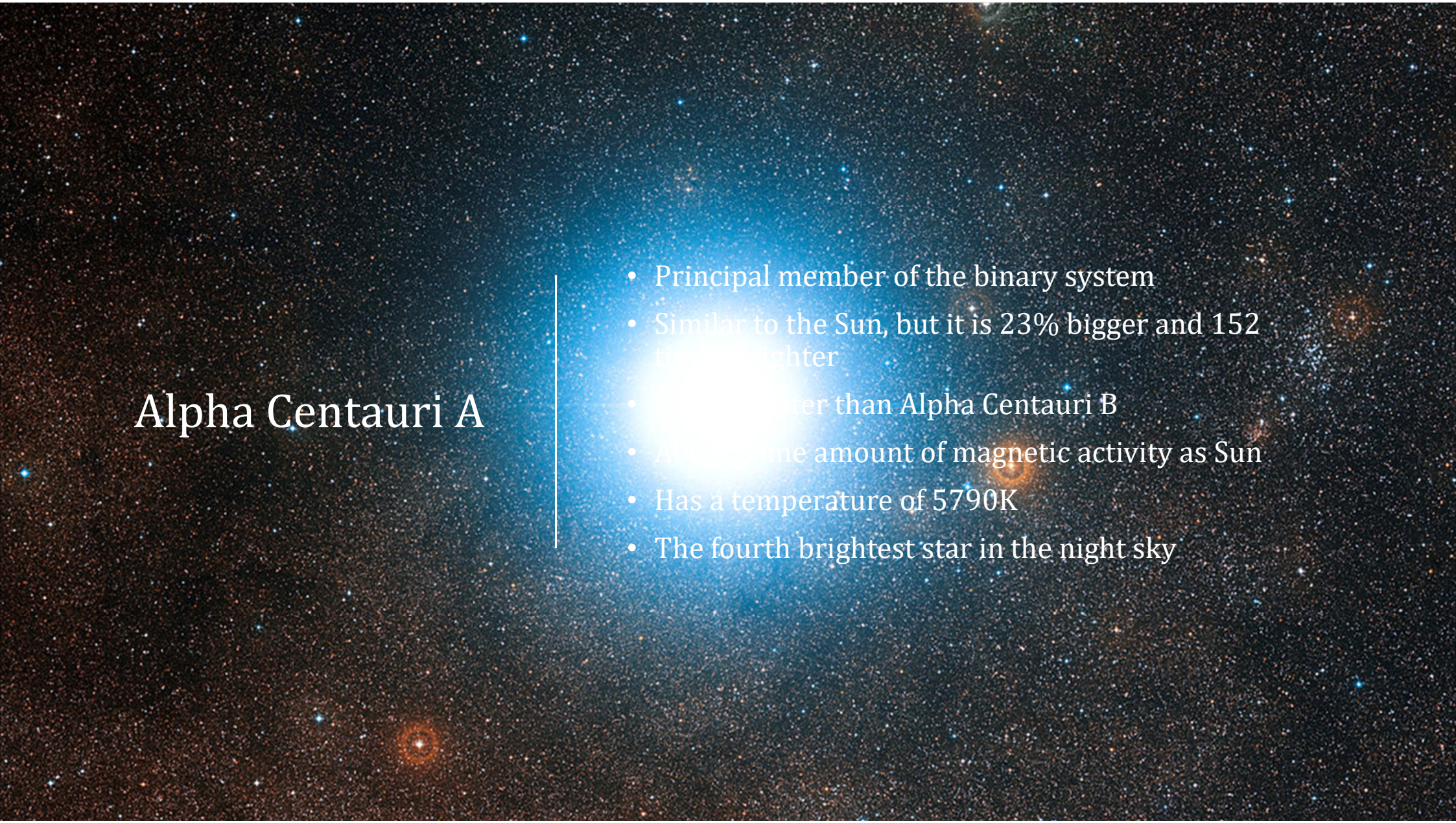
Alpha Centauri



- It's the nearest star system from our Solar System
- 3rd brightest star in the sky and the brightest star in Centauri constellation
- It actually contains three stars: A, B and C
- Alpha Centauri A and B form a binary pair (discovered in 1689)

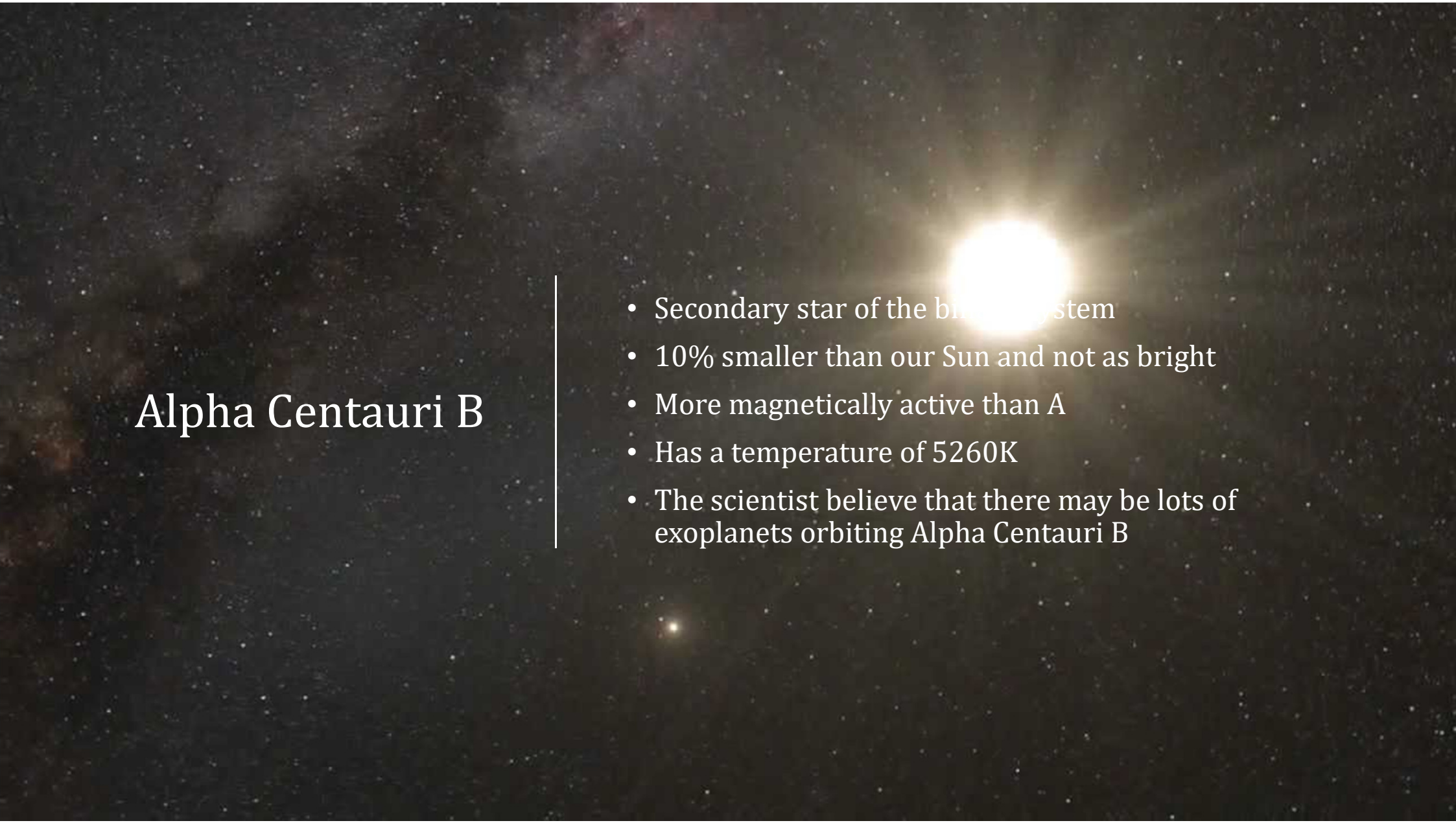
Alpha Centauri

- Maybe in the future it would be possible that travelling to Alpha Centauri would take about 20 years
- Possible exoplanets
- Alpha Centauri's star system is 4.3 light-years from us, which is around 270 000 times the distance from the Earth to the Sun
- Alpha Centauri A and B circulate each other at the distance of 3,6 billion kilometers and in the time of 80 years



Alpha Centauri A

- Principal member of the binary system
- Similar to the Sun, but it is 23% bigger and 152 tim[illegible]ighter
- [illegible]ter than Alpha Centauri B
- A[illegible]me amount of magnetic activity as Sun
- Has a temperature of 5790K
- The fourth brightest star in the night sky



Alpha Centauri B

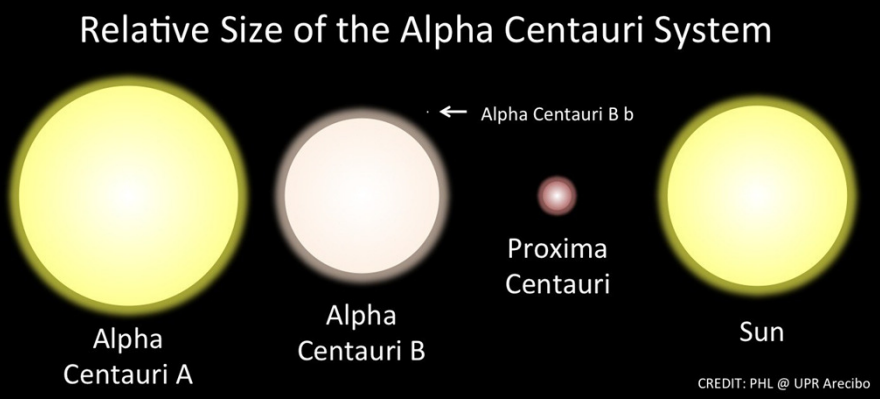
- Secondary star of the bi[illegible]stem
- 10% smaller than our Sun and not as bright
- More magnetically active than A
- Has a temperature of 5260K
- The scientist believe that there may be lots of exoplanets orbiting Alpha Centauri B

Alpha Centauri Bb

- Discovered in 2012
- Unconfirmed exoplanet that orbits Alpha Centauri B
- Most likely tidally locked towards Alpha Centauri B (same side of the planet is always facing the star)
- It's a lava planet and the surface temperatures are about 1473K
- Because of the hard conditions, it is highly unlikely that life could exist on the planet
- Orbits the star at a distance of 6 million km and the orbit time is 3,2 days (Mercury orbits the Sun at a distance of about 59 million km)

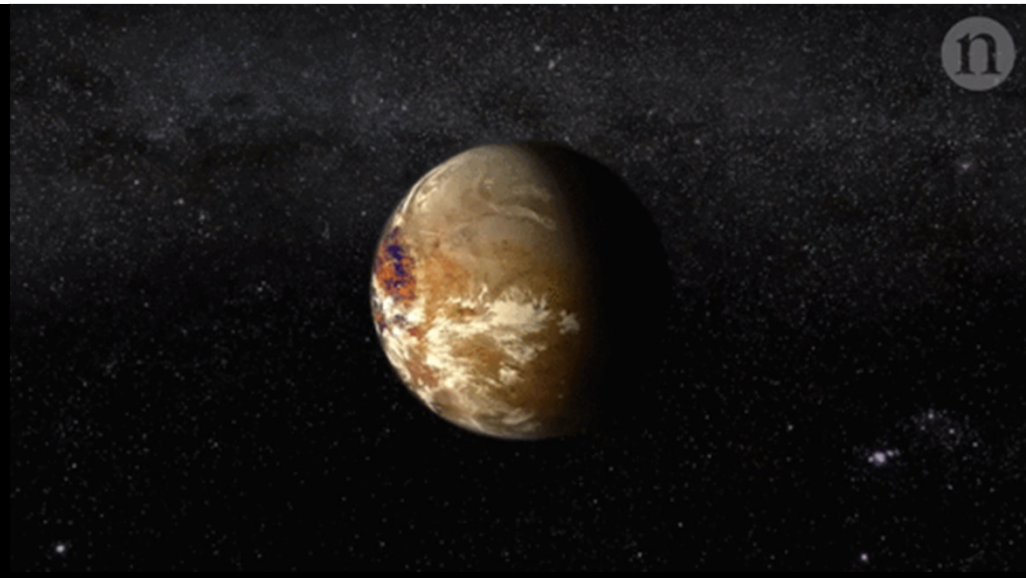
Alpha Centauri C, also known as Proxima Centauri

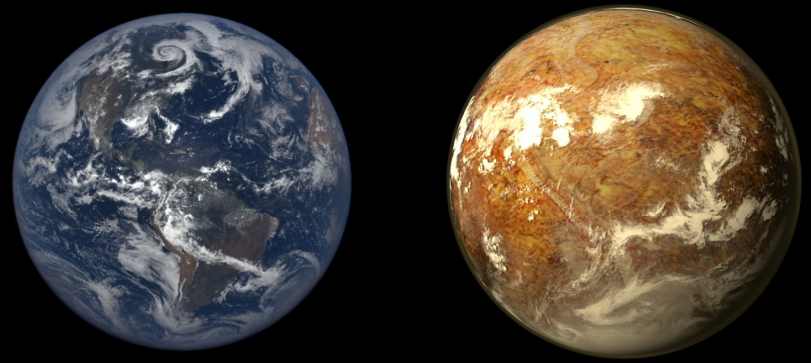
- First discovered in 1915
- It's a red dwarf
- The temperature on the surface is about 3042K
- The distance from the two other star is around 1/5 of a light-year
- The nearest star outside our Solar System. (4.24 light-years)
- It's so small and dull that you can't see it with bare eyes
- Because of high magnetic activity, it might experience sudden bursts of brightness
- Might not be gravitationally bound to the two other stars, but if it is, its orbital period would be 550 000 years



Proxima Centauri b

- Discovered in 2016 by a Finnish astronomer called Mikko Tuomi
- An earth-like rocky exoplanet that orbits Proxima Centauri
- Closest known exoplanet to our Solar System
- It has an orbital period of 11.2 days and orbits the star at a distance of 7,5 million km
- Located in Proxima Centauri's habitable zone where water could exist in its liquid form
- Might have an atmosphere that protects the planet



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Sources

- https://www.newscientist.com/article/2114622-proxima-centauri-really-does-orbit-its-two-bright-neighbours/ 21.8.2018
- https://www.ursa.fi/extra/kosmos/a/alfa_centauri.html 21.8.2018
- https://www.ursa.fi/extra/kosmos/p/proxima_centauri.html 21.8.2018
- https://www.space.com/18090-alpha-centauri-nearest-star-system.html 21.8.2018
- https://en.wikipedia.org/wiki/Alpha_Centauri 21.8.2018
- https://www.space.com/32560-alpha-centauri-what-we-know.html 22.8.2018
- https://www.drewexmachina.com/2017/10/14/alpha-centauri-bb-five-years-later-the-search-for-exoplanets-continues/ 22.8.2018
- https://www.sciencenews.org/blog/context/visits-proxima-centauri-planet-probably-millennia-away 22.8.2018
- Maol taulukot, Raimo Seppänen, Leena Mannila, Martti Kervinen, Irma Parkkila, Pasi Konttinen, Lea Karkela, Tuomas Yli-Kokko, OTAVA 27.8.2018 s. 118
- https://people.com/celebrity/original-e-t-designs-rick-baker-reveals-concept-creatures-on-twitter/ 29.8.2018
- https://www.space.com/32560-alpha-centauri-what-we-know.html 29.8.2018
- https://www.nasa.gov/feature/goddard/2017/an-earth-like-atmosphere-may-not-survive-proxima-b-s-orbit 30.8.2018
- https://scifi.stackexchange.com/questions/122364/what-kind-of-plant-did-eve-find 30.8.2018
- https://giphy.com/gifs/sitewwwhuffingtonpostfr-e3J7D3E4SJTOg?utm_source=iframe&utm_medium=embed&utm_campaign=Embeds&utm_term=https%3A%2F%2Ftieku.fi%2Fmaailmankaikkeus%2Feksoplaneetat%2F5-asiaa-joiden-vuoksi-proxima-b-on-hyva-asuinpaikka 31.8.2018
- https://www.solarsystemquick.com/universe/alpha-centauri-bb.htm 2.9.2018
- https://www.space.com/18646-mercury-distance.html 2.9.2018
- https://www.cosmos.esa.int/web/cesar/the-exoplanets 3.9.2018
- http://www.sciencenutshell.com/meet-proxima-b-the-closest-potentially-habitable-planet-to-the-solar-system/ 3.9.2018
- https://www.space.com/33827-proxima-b-closest-earthlike-exoplanet-strange-facts.html 3.9.2018