

Finding a fETus with UltraSound (FETUS)

Public Engagement Activities

Shu Wang, Ou Zhanchong, and **Miguel Xochicale**

Event name **#2021**

6th July 2021

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Get source of this slides and see further references from <https://github.com/ofetus/us-simulator>.



Contents

1. Who are we?
2. Guessing Fetal Growth
3. Looking inside the human body
4. Simulating Ultrasound-Guidance Interventions
5. Takeaway messages / Surprises / Evaluation

Who are we?

Who are we? / Where we come from? / Do we have hobbies?

Shu
Wang



Shenzhen
China



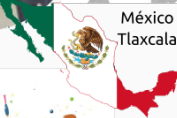
Zhanchong
Ou



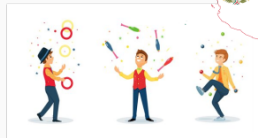
Beijing
China



Miguel
Xochicale

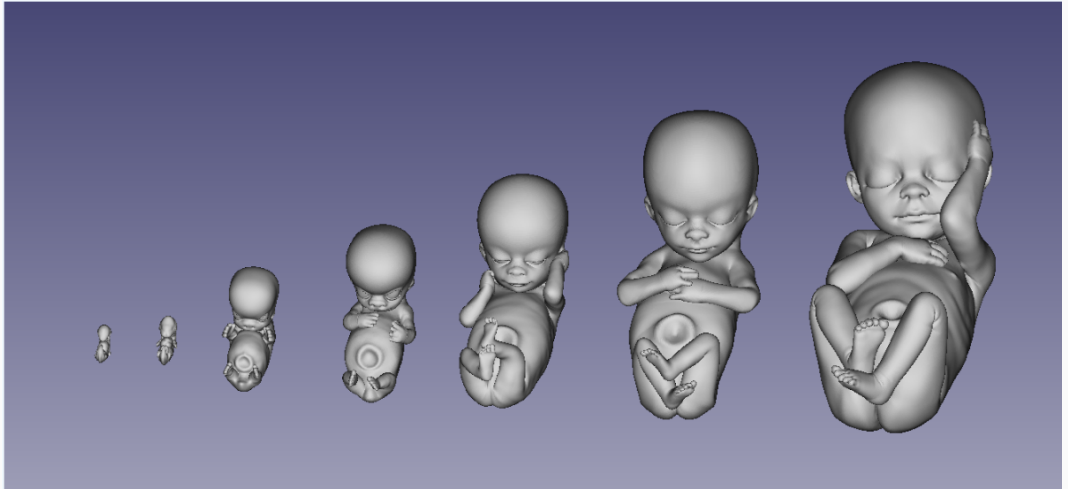


México
Tlaxcala



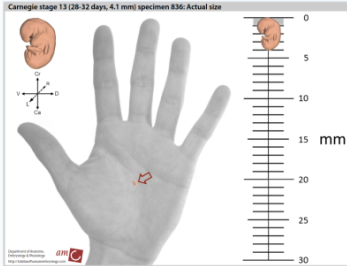
Guessing Fetal Growth

Can you guess the *AGE* of these fetus?

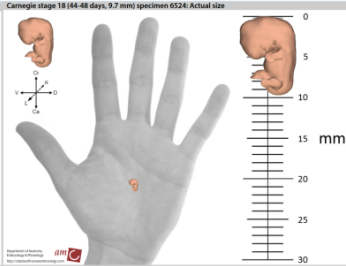


Can you guess the *SIZE* of these fetus?

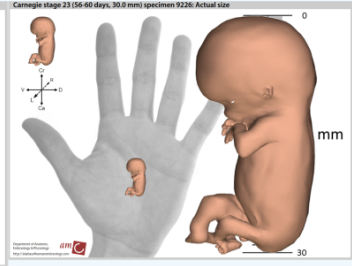
week 5



week 6



week 9



5 Weeks Pregnant

Your baby is as big as an orange seed.



Baby's super tiny



35

Weeks to go!

6 Weeks Pregnant

Your baby is as big as a sweet pea.



0.51 - 0.64 cm



34

Weeks to go!

9 Weeks Pregnant

Your baby is as big as a green olive.



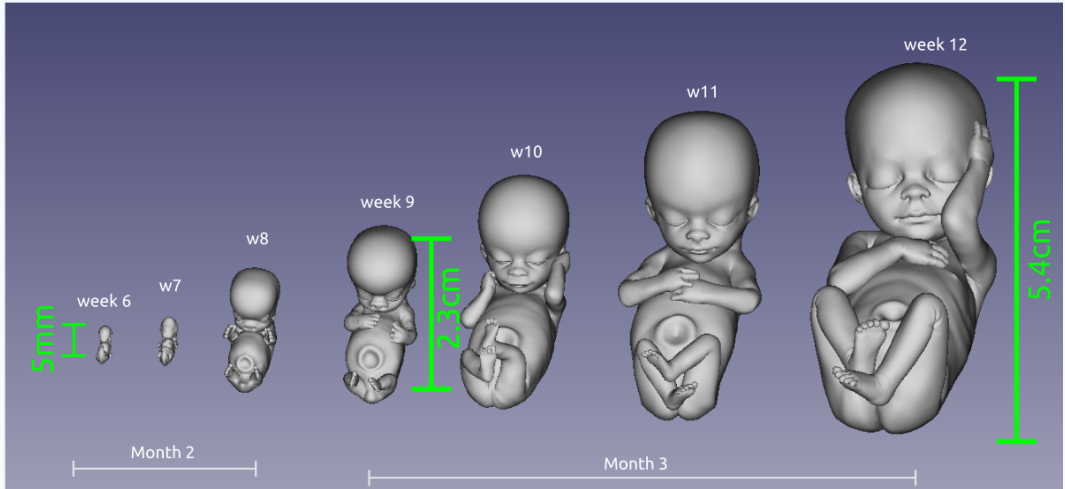
2.54 cm



31

Weeks to go!

Fetal Growth



Looking inside the human body

Medical Imaging in Pregnancy

CT



+ high image quality  - non-real-time

MRI



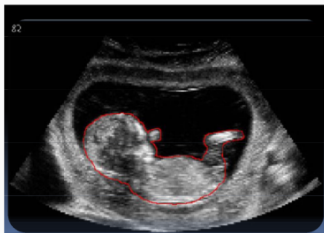
+ high image quality  - non-real-time

US



+real-time  - poor-image quality

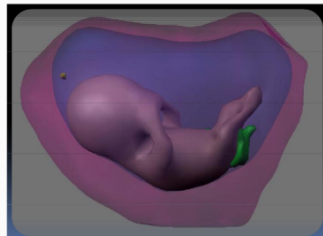
Segmentation on 3D US data



Tissue Labelling



Surface Reconstruction

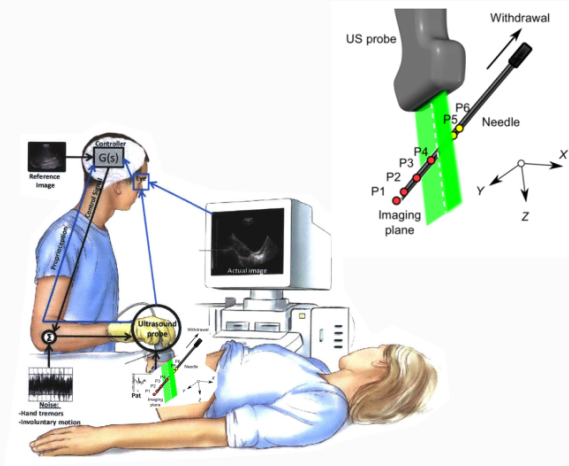


3D printing Fetus



Simulating Ultrasound-Guidance Interventions

The sonographer-probe-patient control system



Challenges:

- Tracking needles
- Skillfulness of sonographers
- Anatomical view changes

Training in-plane/out-plane needle tracking



Takeaway messages / Surprises /
Evaluation

Souvenirs

Takeaways

- Fetal development
- Ultrasound imaging
- 3D printing
- US needle tracking



Evaluation



GIFT Surg UNT team



Miguel
Xochicale



Shu
Wang



Ou
Zhanchong



Fang-Yu Lin

...



Name
Surname



Name
Surname



Name
Surname

...



Anna
David



Tom
Vercauteren



Wenfeng
Xia

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