

# Visualising Physiome Databases

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# Demo

Musculo-Skeletal Viewer - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://webdev.bioeng.auckland.ac.nz/people/malcolm/ebonz/knee/knee.xul

Component Viewer

- Skeletal
  - Hip
    - Thigh
      - Femur**
      - Patella
    - Leg
      - Tibia
      - Fibula
  - Muscular
    - Anterior Thigh
      - Sartorius
    - Quadriceps Femoris
      - Rectus Femoris
      - Vastus Medialis
      - Vastus Intermedius
    - Posterior Thigh
      - Biceps Femoris Long
      - Biceps Femoris Short
      - Semitendinosus
      - Semimembranosus
  - Connective
    - Patella Ligament
    - Anterior Cruciate
    - Posterior Cruciate
    - Lateral Meniscus
    - Medial Meniscus
    - Medial Collateral


Views: Top, Bottom, Front, Back

Tools:

Component Information

Model: Knee

Component: femur



FEMUR

Models: Hide

- Knee Flex Model
- Gait Analysis
- Patello-Femoral Articulation
- Cerebral Palsy Study

People: Hide

- [Justin W Fernandez](#)
- [Peter J Hunter](#)

Research Groups: Hide

- [Auckland Bioengineering Institute](#)

Publications: Hide

- Fernandez, J.W., Mithraratne, P., Thrupp, S.F., Tawhai, M.T., Hunter, P.J., (2004), 'Anatomically based geometric modelling of the musculo-skeletal system and other organs', *Biomechanics and modelling in mechanobiology*.
- Fernandez, J.W., Hunter, P.J., (2004), 'An anatomically based finite element model of the patella articulation: Towards a diagnostic tool', *Biomechanics and modelling in mechanobiology*.

2 Errors CS:none

# RDF: Model Components

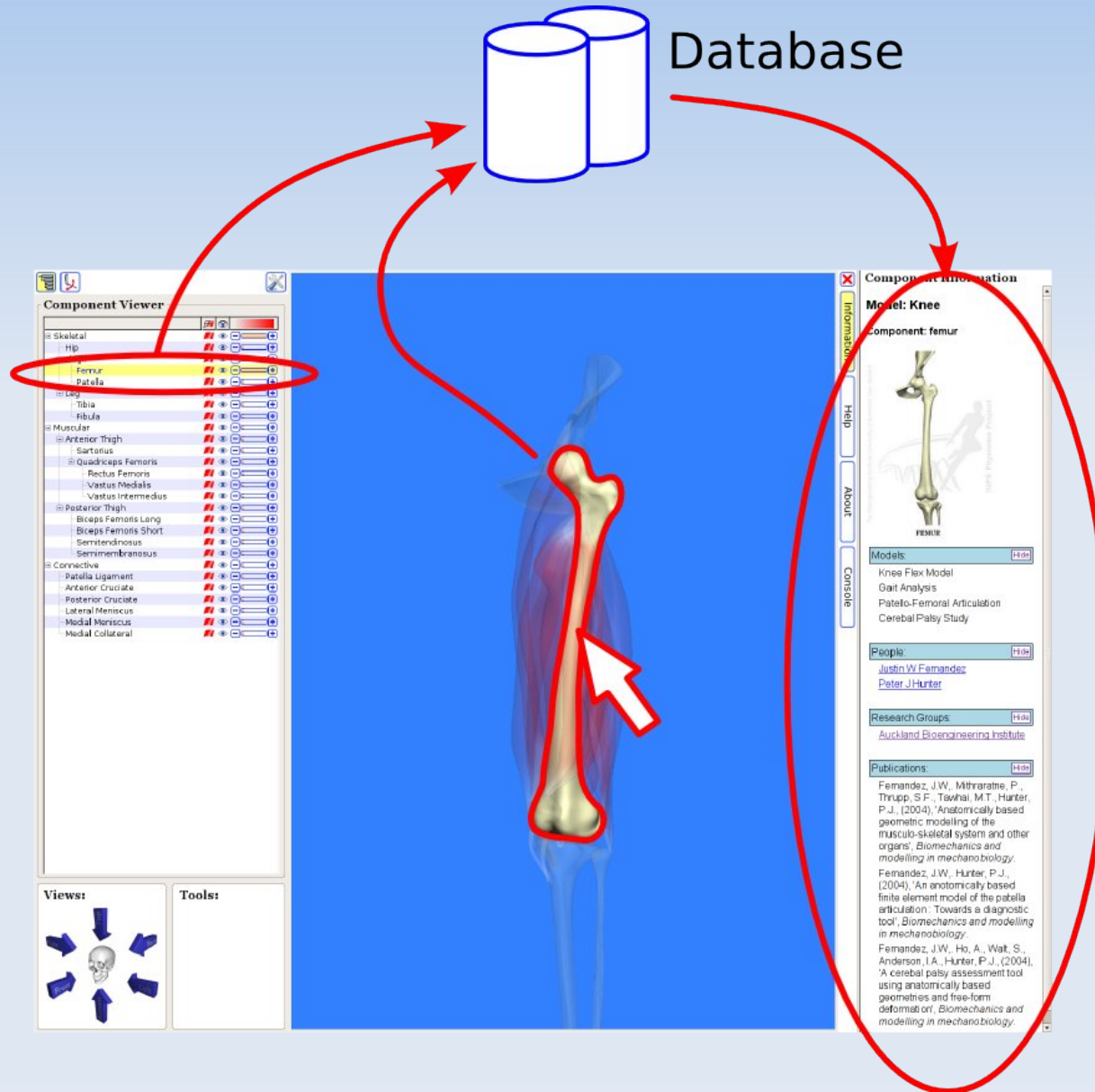
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  xmlns:ANATOMY="http://www.physiome.org.nz/rdf#">
  <RDF:Description RDF:about="http://www.physiome.org.nz/skeletal">
    <ANATOMY:name>Skeletal</ANATOMY:name>
  </RDF:Description>
  <RDF:Description RDF:about="http://www.physiome.org.nz/skeletal/hip">
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  </RDF:Description>
  <RDF:Description RDF:about="http://www.physiome.org.nz/skeletal/thigh/patella">
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# RDF: Hierarchy

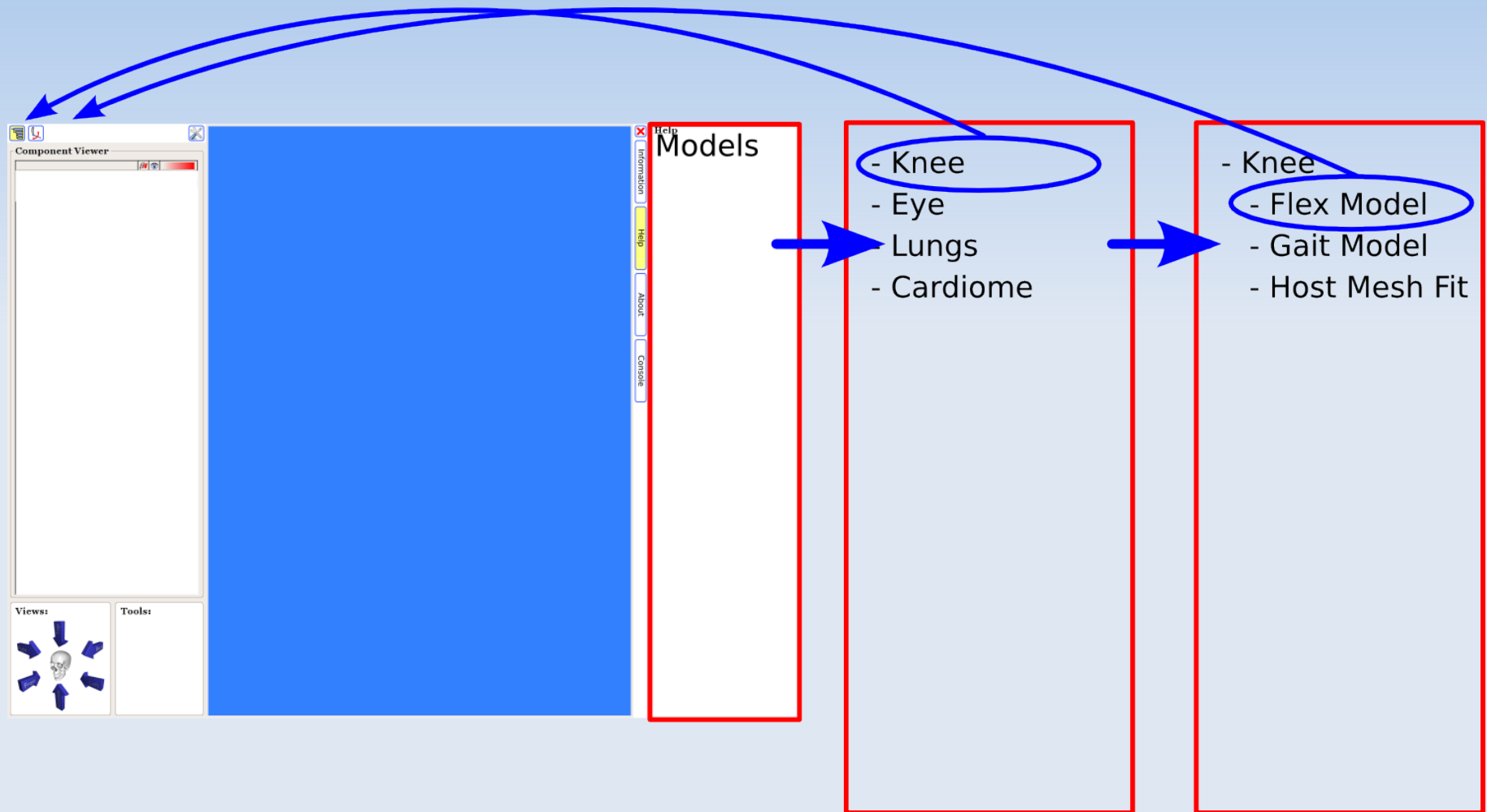
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<?xml version="1.0"?>
<RDF:RDF xmlns:RDF="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
  xmlns:ANATOMY="http://www.physiome.org.nz/rdf#">
  <RDF:Seq RDF:about="http://www.physiome.org.nz/knee">
    <RDF:li>
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            <RDF:li RDF:resource="http://www.physiome.org.nz/skeletal/thigh/femur"/>
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          <RDF:Seq RDF:about="http://www.physiome.org.nz/skeletal/leg">
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                <RDF:li RDF:resource="http://www.physiome.org.nz/muscular/anterior_thigh/quadriceps_femoris/rectus_femoris"/>
                <RDF:li RDF:resource="http://www.physiome.org.nz/muscular/anterior_thigh/quadriceps_femoris/vastus_medialis"/>
                <RDF:li RDF:resource="http://www.physiome.org.nz/muscular/anterior_thigh/quadriceps_femoris/vastus_intermedius"/>
              </RDF:Seq>
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          <RDF:Seq RDF:about="http://www.physiome.org.nz/muscular/medial_thigh">
            <RDF:li RDF:resource="http://www.physiome.org.nz/muscular/medial_thigh/pectineus"/>
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            <RDF:li RDF:resource="http://www.physiome.org.nz/muscular/medial_thigh/adductor_brevis"/>
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```



# Information Database



# Dynamic Model Loading



# Discussion

- RDF
- Diving down scales
  - Organism -> Organ -> Tissue -> Cell
- Other ideas