













OUR BODIES ARE NOT BUILT FOR LONG TERM
SPACE TRAVEL



EX BI



ENGINEERING THE HUMAN BODY FOR LONG TERM SPACE
EXPLORATION

IN SPACE, HUMANS EXPERIENCE ANNUAL
OSTEOPOROSIS LEVELS OF BONE DECAY
ON A MONTHLY BASIS

THIS IS CALLED SPACEFLIGHT
OSTEOPENIA

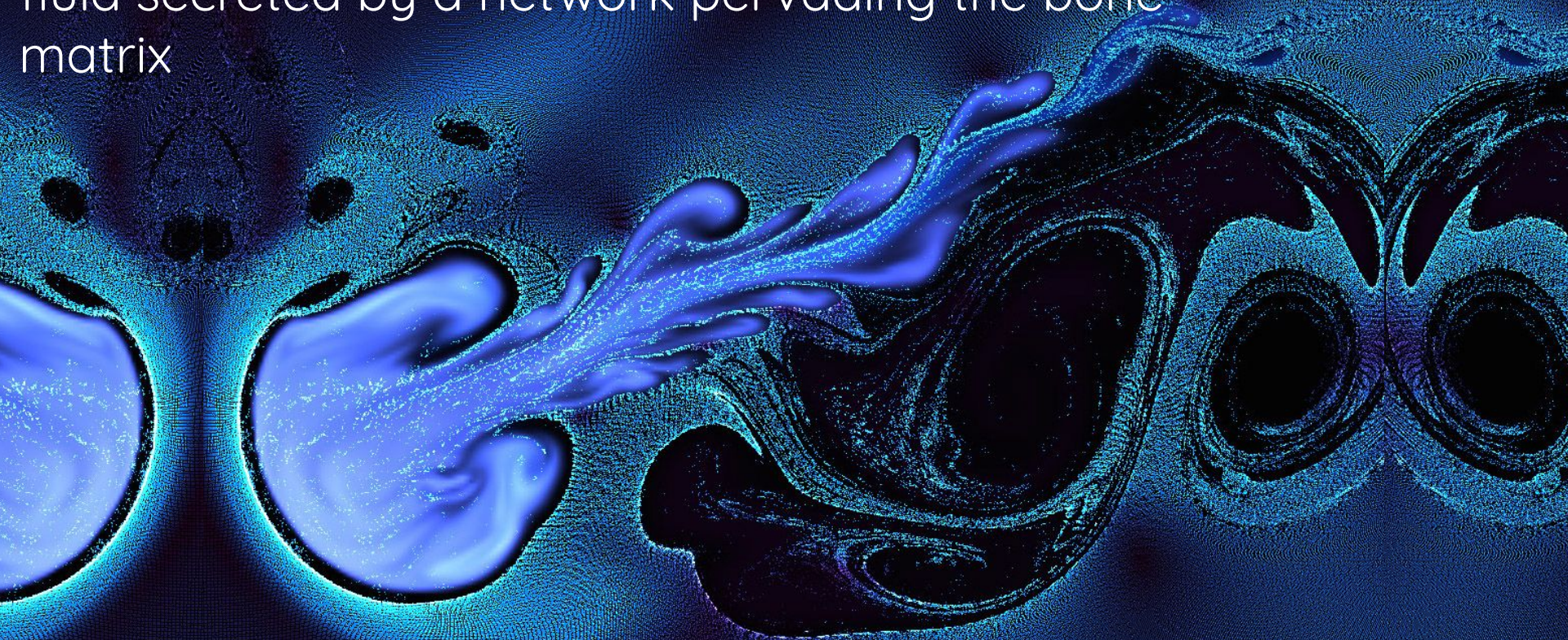
OSTEOCLASTS break down bone

OSTEOBLASTS repair bone

OSTEOCYTES manage osteoclast and osteoblast proliferation



OSTEOCYTES are influenced by CANALICULAR fluid secreted by a network pervading the bone matrix



CANALICULAR fluid secretion is
affected by the amount of
mechanical pressure put on the
body



Basically,



Less gravity
=
different amount of
fluid secreted
=
osteocytes behave
differently
=
Less osteoblasts
=
bone deterioration

Our solution is to identify and manufacture canalicular fluid into a drug, injection or extraction , which, when administered, will normalize bone repair and deconstruction in space to levels which match people on Earth



YOU