# REFERENCES

#### 1. Basic ROS Tutorials

These tutorials use the turtlesim.

The tutorials are essential to do so that you understand key ROS concepts: ROS filesystem, packages, nodes, topics, services, parameters, rqt\_console, roslaunch, ROS msg and srv, publisher, subscriber, etc.

## http://wiki.ros.org/ROS/Tutorials

# 2. Baxter Simulator Tutorial in "ROS Robotics by Example" by Carol Fairchild Ch 6

Gives a good intro to the Baxter simulator. I use the simulator extensively to develop code to protect the robot. I do not like to run newly developed code through the robot and potentially cause harm.

The UW library has this book.

#### 3. Baxter Research Robot SDK website

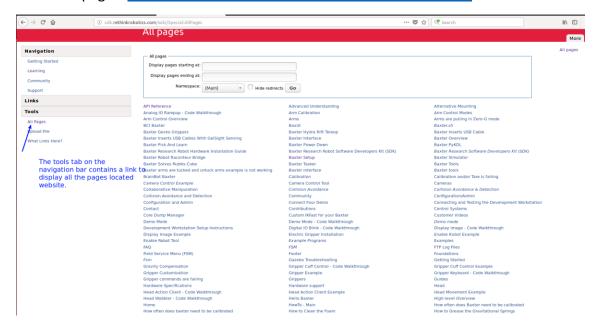
Once you understand the concepts of ROS, this is your main reference for Baxter.

It has information on everything that you want to know about the robot.

If you look at the navigation bar on the side of the web page, you will see a tab called "Tools".

Click on that and there will be a drop down with an option called "All Pages". This will display all the web pages on the site so that you can see what is available.

Link to all pages: http://sdk.rethinkrobotics.com/wiki/Special:AllPages



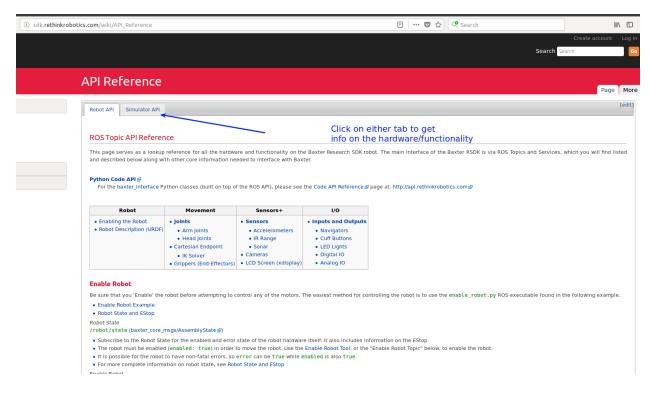
# Helpful webpages are:

- a. Hardware specifications at: <a href="http://sdk.rethinkrobotics.com/wiki/Hardware">http://sdk.rethinkrobotics.com/wiki/Hardware</a> Specifications
- b. Robot state and Estop at: <a href="http://sdk.rethinkrobotics.com/wiki/Robot State">http://sdk.rethinkrobotics.com/wiki/Robot State and EStop</a>

#### Next:

Go to the Learning page at: http://sdk.rethinkrobotics.com/wiki/Learning

There you will find links to great resources including example programs, the ROS API reference, the Baxter Interface Overview, and the Code API.



You will also want to familiarize yourself with the baxter\_interface Python API (it contains all of Baxter's python classes/methods) and the ROS Messages and Services

http://api.rethinkrobotics.com/

# Baxter<sup>TM</sup> SDK API Documentation

## Python API

• baxter\_interface Python API

## **ROS Messages & Services**

- baxter\_core\_msgs
- baxter\_maintenance\_msgs

#### Links

- Baxter SDK Wiki
- SDK Developers Site
- Archives:
  - v1.0.0 API

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# 3. ROS by Example by Patrick Goebel vol 1 and 2

These are wonderful books with lots of example code that can be extrapolated to Baxter. I used these books a lot when I was learning ROS. The author has a google group that he is very active on. If you don't understand a concept in his book or something is not working, post it.

If your question pertains to his book, he will answer you.

The books are in the drawer of the desk at the Baxter workstation.

Volume I contains info on Computer Vision and Voice control

Volume II contains info on Movelt

4. Programming Robots with ROS by Morgan Quigley, Brian Gerkey, and William D. Smart

This is available in the library at UW

**5.** If you decide you want to code in C++, the Desktop on the Baxter Computer has a book

called "A Gentle Introduction to ROS" that you can use. The library also has books written for C++ such as "Learning ROS for Robotics Programming" by E. Fernandez.