



\*Representation only  
exact design still in development

*You are invited to join us at the....*

## **2<sup>nd</sup> Hawaii Micro Robotics Bipedal Robot Workshop**

**August 25-26, 2012**

**Hawaii Community College, Hilo, Hawaii**

**inspiring and engaging the next generation**

### **Bipeduino – The Arduino compatible Bipedal robot.**

- *Circuit board is pre-soldered! Only mechanical assembly is required.*
- *Bluetooth built in! Control the robot remotely with your Android device –IOS support in the works*
- *New Features – 2 wall sensors, 4 expansion ports for sensors or servos, buzzer, RGB LED*
- *Compatible with the easy to use open source Arduino code base.*
- *Comes pre-programmed with an example walk program.*
- *Printed color assembly and instruction manual included.*
- *Finish the workshop with a programmable walking robot!*

\*For those of you who attended the bipedal conference in August 2011, this is a completely new design versus the EasyBiped: this robot has a full featured programming environment that is compatible with the existing Arduino code base. The circuit board is already soldered so assembly will be much quicker and we can focus more on getting everyone started learning how to write programs to make the robot do new and exciting things!

Goal: stimulate high technology education and assist in creating a technically capable workforce by developing the infrastructure and skill sets necessary to support high technology robotics-based activities as programs for potentially larger efforts, and as a result, increasing the number of students who have access to micro robotics, a program that is transitional between high school and college.

### *Sponsors*



Waikeha High Robotics



# Why Robotics?

<http://www.hanahou.com/pages/Magazine.asp?Action=DrawArticle&ArticleID=790&MagazineID=50>

- It is not about building robots but building critical life skills....teamwork, problem solving, time management, effective communication.
- It is about raising the bar and expectations for students through national and international competitions, and providing a measurable standard.
- It is about catalyzing interest in STEM career paths....it is about developing a work force for the 21st century.
- It is about making abstract concepts concrete, making learning relevant and engaging. It is about innovation needed to solve global issues.
- It is about “collective genius,” collaborating on a global scale.

## Workshop: design and build a programmable, Easy biped robot, the new Bipeduino

### Hawaii Bipedal Robot Workshop

*Eligibility: elementary (grades 5, 6, enrichment), middle and high school teachers (adult mentors for team may accompany teacher) with school robotics teams*

*Registration: \$25 per teacher or adult mentor (includes 2 lunches)*

*Bipedal kit provided for each registered participant (additional kits can be purchased from [Easybotics.com](http://Easybotics.com)); each participant should bring a lap top computer for programming your biped robot and if available, your Android phone or tablet*

*Hilo Hawaiian Hotel has special room rates (\$92 for up to 4 in a room) for this workshop (information sent with registration confirmation)*

*For further information and registration contact Art Kimura, Hawaii Space Grant Consortium, email: [art@higp.hawaii.edu](mailto:art@higp.hawaii.edu), phone (808) 934-7261. Specifics will be sent with confirmation.*

*\*limited to 60 kits and 60 participants*

#### **August 25, 2012, Saturday**

0900 registration, Hawaii Community College, Building 388, rooms 101/102

0930 opening: overview, review of workshop objectives and schedule

1000-1200: workshop session I

1200-12:45: hosted lunch

1245-1700: workshop session II

#### **August 26, 2012, Sunday**

0830 opening: review of schedule

0900-1200: workshop session III

1200-1245: hosted lunch

1245-1530: workshop IV and closing demonstrations

**Join Waiakea High Robotics at the 21<sup>st</sup> annual International Micro Robot Maze Contest, Nagoya University, November 2012** (assistance in planning available)

\*categories: 1 cubic centimeter, 1 cubic inch, 2 inch bipedal micro robots

<http://imd.eng.kagawa-u.ac.jp/maze/index.html>

### Why micro robots?

- Unique skill sets of value to future education and work...jobs which have not yet been created
- Micro mechanisms: application for medicine, security, search and rescue
- Potential for research and development, prototyping and a future industry
- And you can carry all your robots in your pocket.

Cynthia Breazeal, rise of personal robots

[http://www.ted.com/talks/cynthia\\_breazeal\\_the\\_rise\\_of\\_personal\\_robots.html](http://www.ted.com/talks/cynthia_breazeal_the_rise_of_personal_robots.html)

Robots and Comic Interface

[http://www.ted.com/talks/heather\\_knight\\_silicon\\_based\\_comedy.html](http://www.ted.com/talks/heather_knight_silicon_based_comedy.html)

Tomotaka Takahashi, Robo Garage (humanoid robots)

<http://www.robo-garage.com/en/prd/index.html>

EasyBiped robot videos

<http://www.easybotics.com/content/photovideo>

# 2012 Hawaii Micro Robotics Bipedal Workshop Registration

Please print legibly or type. Incomplete applications cannot be processed and will be returned.

<b>School registration (name of school)</b>
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<i>Last name</i>	<i>First Name</i>	<i>Cell Phone #</i>	
<i>Mailing address</i>	<i>City</i>	<i>State</i>	<i>Zip Code</i>
<i>Email address</i>	<i>Subject teaching</i>		

<i>Last name</i>	<i>First Name</i>	<i>Cell Phone #</i>	
<i>Mailing address</i>	<i>City</i>	<i>State</i>	<i>Zip Code</i>
<i>Email address</i>	<i>Subject teaching</i>		

<i>Last name</i>	<i>First Name</i>	<i>Cell Phone #</i>	
<i>Mailing address</i>	<i>City</i>	<i>State</i>	<i>Zip Code</i>
<i>Email address</i>	<i>Subject teaching</i>		

*Registration fee: \$25 per adult. Payment: registration must be paid in full and mailed with a completed registration form. There will be no refunds. Make personal check, money order, or cashier's check payable to **Waiakea High Robotics** and mail to: Hawaii Space Grant Consortium, University of Hawaii, P.O. Box 6412, Hilo, HI 96720.*