## A GRANT PROPOSAL TO SUPPORT THE BOYS AND GIRLS CLUB OF ANNAPOLIS AND ANNE ARUNDEL COUNTY ROBOTICS SUMMER CAMP AND FIRST LEGO LEAGUE ROBOTICS TEAMS



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#### 1. Boys & Girls Clubs of Annapolis & Anne Arundel County

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www.bgcaa.com Federal ID Number: 52-1736346

## 2. Brief History of the Organization, Mission Statement, Goals and Objectives

The Boys & Girls Clubs of Annapolis & Anne Arundel County (BGCAA) were founded in 1988. We currently operate 6 clubs in Anne Arundel and the City of Annapolis. Combined, we reach and serve over 7,000 youth annually. The BGCAA Science, Technology, Engineering and Math (STEM) initiative, the proposed recipient of this grant, is a new venture for the BGCAA and was initiated in January 2009.

The mission of the BGCAA is to help youth of all backgrounds, with emphasis on at-risk youth, build confidence, develop character and acquire the skills needed to grow into productive, civic minded and responsible adults. Our programs and services address the social, educational, vocational and character development of boys and girls. The BGCAA targets youth and families in communities from public housing, low-income neighborhoods and public schools.

The objective of the organization is to instill a system of moral values by providing educational support, character development and leadership, social recreation activities and special programs during after-school hours and summer months so that club members develop positive self-identity, educational competence, employment competence, social competence, health and well-being.

# 3. Type and Scope of Services Offered, and the Geographical Areas Services

As a facility-based agency, the BGCAA provides youth with daily access to a comprehensive range of youth-centered programs which use research-based best practices and services based on the following core program areas:

- Character and Leadership Development,
- Education and Career Development,
- Health and Life Skills,
- The Arts, and

• Sports, Fitness and Recreation.

The daily program serves as the heart of activities at each Boys & Girls Club Branch. Staff provides programs that create opportunities to help young people develop the strengths and competencies described by the youth development outcomes statement. Opportunities are offered each day for members to participate in individual activities, small group programs and large group activities which emphasize skill development, self-improvement and teach youth to be goal-oriented without preaching. Simultaneous program opportunities in three or more core program areas are offered throughout each program day, allowing program choices for participating youth. Daily offerings also include instructional, competitive and learning activities. Developmentally appropriate programs and activities are specifically designed for each age group.

BGCAA recognizes the potential for utilizing computer technology to help educate, stimulate, and motivate youth to learn, to explore, and expand their horizons. Access to the latest technology provides youth unlimited opportunities to learn new skills, conduct research, and facilitate tutoring and academic remediation. As technology plays an ever larger role in our children's futures, BGCAA is providing them access to the latest computer technology with opportunities to develop skills, knowledge, and methods to help them become technologically literate. B&GAA is working to close the digital divide and help these children build self-confidence through the use of technology.

The STEM program was started at the BGCAA in January 2009. The robotics activities which are the subject of this grant proposal are a critically important element of this new STEM initiative.

## 4. Specific Details as to How the Requested Funds Would Be Used

The Boys & Girls Clubs of Annapolis and Anne Arundel County currently offer a seven week summer camp at each of their six sites from 6 July to 14 August. Our plan is to add a robotics offering in this camp for the first time this Summer.

The Boys & Girls club robotics summer camp has the following objectives:

- Provide exciting technical challengers that will develop interest in the STEM field.
- Teach critical thinking and problem solving skills inherent in Engineering design, development and testing.
- Provide the opportunity to design, program and operate robots consistent with the FIRST Lego League construct.
- Organize field trips to local technology sites to demonstrate technology in action
- Integrate technical learning into the athletic activities. An example is to introduce basic hydrostatic and hydrodynamic principles while the children are having fun in the swimming pool.
- Provide the children with the opportunity to present their robot designs and their new insights into technology before judges consisting of engineering college students and practicing professionals.

Our summer camp will be open to two age groups. The senior group will be for children ages 9 to 12 and will follow the precepts of the FIRST Lego League robotics program. The junior group will be for children ages 5 to 8 and will follow the approach of the Jr First Lego League. There will be 30 children admitted into each of the two age groups. Our budget assumes there will be 60 children in the robotics camp for six weeks.

The camp will be located at the Boys & Girls Bates Club site. There will be three two week sessions:

- Session 1: Mon 6 July thru Fri 17 July
- Session 2: Mon 20 July thru Fri 31 July
- Session 3: Mon 3 Aug thru Fri 14 Aug

A one week planning and get ready period for the staff and volunteers will take place the week of 29 June. The camp will provide activities all day from 9 AM to 4 PM. Breakfast and lunch will be provided.

The goal is to make this robotics camp affordable to the Boys & Girls Club families. The camp fees will therefore be kept low at the following rates:

- One session: \$175
- Two sessions: \$300
- Three sessions: \$425

Even at these low camp fees as compared to other summer camps, there will be some worthy families with real interest in providing their children with this technical focus that can not afford to pay these camp fees. For this reason one of the key budget assumptions is that 25% of the camp fees will be waived in order that no interested kid is excluded.

The dedicated staffing of the Boys & Girls Club robotics camp will consist of the following:

- 1 Senior Coordinator
- 1 Assistant Coordinator
- 1 Junior Staff for each group of 10 children (total of 6 Junior Staff)

Since the facilities are in place and some of the basic expense such as the cost of breakfast and lunch are covered by the omnibus summer camp budget, the cost of the staff is the The total amount requested

major expense in providing this robotics summer camp.

The weekly schedule of activities for the Boys & Girls Club robotics camp is under development. Brochures to promote the camp are being prepared and will be promulgated in the month of April.

### 5. Project Budget and Amount Requested

The total grant requested is \$24,917 of which \$21,517 will fund the Robotics Summer Camp and \$3,400 will sponsor four FLL robotics teams. For the Summer camp, the

requested amount, in addition to the \$11,775 in revenue collected from the program participants, will enable the BGCAA to fully fund its Robotic Camp budget of \$33,292. The budgets and details are provided in the paragraphs below.

#### a) Robotics Summer Camp Budget and Amount Requested

Since this is the first offering of this robotics camp, there are no actual expenses available to form the basis of this budget. The assumptions and considerations are summarized below.

#### **Robotics Camp Staff**

The total budget for staff is \$20,160. We will hire a full time Senior Coordinator at a rate of \$13 per hour and an Assistant Coordinator at a rate of \$11 per hour for seven weeks (1 planning week and three 2 week sessions). We will also hire six Junior Staff at a rate of \$8 per hour for this same seven week period. We plan to offer Junior Staff positions to promising children age 14 and older from our winter FLL teams at the Boys & Girls Club as well as members of the South River 'Power Hawks' robotics team at South River High.

#### **Senior Executive Staff**

There is no additional cost for the Boys & Girls Club senior executive staff that will supervise the overall summer camp operations. The BGCAA is part of the overall summer camp budget and is therefore not part of this robotics camp budget.

#### **Materials**

The total cost of materials is \$10,132. We will purchase a LEGO Mindstorms Education NXT Getting Started Kit for the senior group at a cost of \$4,272 and a WeDo Robotics Getting Started Kit for the junior group at a cost of \$1,810. These two kits will provide us with software, activity packs and 12 sets of LEGO robotic kits for each of the two age groups. To provide the children with flexibility in programming the robots, we plan to purchase 5 low end lap top computers at a cost of \$3,000 to augment the PC's in our existing computer lab. We will provide distinctive, high quality tee shirts for each camper and each of the staff at a cost of \$1,050.

#### **Site Preparation**

There is some upgrade required to the two two rooms identified to support directly the two age groups for the robotics camp. We have budgeted \$1,000 for this site preparation.

#### Reserve

We will hold a reserve of \$2,000 to cover unexpected expenses associated with the robotics summer camp.

#### Meals

Breakfast and lunch expenses will be absorbed within the omnibus Boys & Girls Club summer budget and therefore are not part of the robotics camp budget.

#### **Total Expenses**

The total direct budget for the Boys & Girls club summer robotics camp is \$33,292

#### Revenue

The budgeted revenue for Summer camp is \$11,700 which is based on the following assumptions:

- There will be 12 children signing up for 1 two week session, 10 children for 2 two week sessions and 8 children for all 3 two week sessions.
- 25% of the camp fees will be subsidized to insure no children are excluded because of financial hardship.

The total amount of grant resources needed to support the Boys & Girls Club robotics summer camp is \$21,517. This is the difference between the budget of \$33,292 and the revenue of \$11,775.

The donation of the full amount of \$21,517 would ensure that this first offering of a Boys & Girls club robotics summer camp would be financially sound. However, we do not want to request an 'all or nothing' grant Funding discrete line items would be of great value to the success of this robotics summer camp. Examples include:

- Senior and Assistant Coordinator salaries: \$6,720
- Six Junior Staff salaries: \$13,440
- Robotics Starter Kits: \$6,082
- Scholarships for 25% of campers: \$3,980

#### b) FIRST Lego League (FLL) Team Budget and Amount Requested

The amount requested for the four FLL teams is \$3,400. This will enable the BGCAA to sponsor four FIRST Lego League robotics teams for the 2009 FLL season.

The budget for each FLL team is \$850 which will enable the BGCAA to sponsor its first four FIRST Lego League Robotics Teams: one team from each of the three Annapolis club sites and one team from a site outside of Annapolis. For each team, this budget includes funds for:

- 1- NXT Mindstorms robotics kit (\$350)
- 1- FLL team registration fee (\$200)
- 1- FLL field setup kit (\$65)
- 1- MD state tournament entry fees (\$50)
- T shirts (\$120)
- Reserve (\$65)

#### c) Execution of Budget and Report of Results

The execution of the budget will be the responsibility of the following people:

- Dr Clark 'Corky' Graham, Volunteer STEM Program Director
- Ms Latonia Kendrick, Chief Operating Officer of the Boys & Girls Clubs
- Mr Martin Stinson, Senior Robotics Summer Camp Director

A financial summary of the actual expenses of the summer camp will be provided in a final report of the robotics camp results by the end of September 2009.

### 6. Contact Information

The primary point of contact for the STEM program and this robotics summer camp at the Boys & Girls Club of Annapolis and Anne Arundel County is Dr Clark 'Corky' Graham. Dr Graham is a recent retired Vice President of Northrop Grumman's Shipbuilding Sector. His contact information is as follows:

Clark Graham, PhD Boys & Girls Club of Annapolis & Anne Arundel County 121 South Villa Avenue Annapolis, MD 21401-3634

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