**John Anthony (Tony) Cook, Ed.D.**

**Curriculum Vitae, September 2020**

Extension 4-H Specialist, Science & Technology

Alabama Cooperative Extension System

Assistant Professor, Educational Foundations, Leadership and Technology

College of Education, Auburn University

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**Assignment:** 4-H Youth Development Program, Science & Technology Literacy

**Education:**

1991 Vocational & Adult Education, Ed.D., Auburn University

“An Analysis of 4-H Member Project Selection and Participation”

1977 Agricultural Engineering Technology & Business, M.S., Mississippi State University

1976 Agricultural Engineering Technology & Business, B.S., Mississippi State University

**Nature of Work:**

The position of Extension 4-H Specialist has been held since October 1980. As an Extension 4-H Specialist in Science & Technology Literacy, programs are developed and implemented relating to the mechanical sciences, new technology, and science literacy. The work involves the development and support of broad curriculum and programming for these content areas. Camp/conference programs that relate to the content areas supported in this position are planned and coordinated. Additional responsibilities include assisting county extension agents in planning, organizing, conducting and evaluating Science & Technology and other programs. Further support is provided to the overall 4-H Youth Development Program of Alabama in youth development program budgeting, development, and management including training of extension agents and volunteers and other duties as needed.

The Specialist has served as a member of various national teams including a National 4-H Task Force on Science, Engineering, and Technology and others. Work as a National Liaison/Coordinator for Aerospace Education in 4-H provided leadership in curriculum support, collaborations, and communications to the CES System resulting in collaborations with NASA, the U.S. Space & Rocket Center (Space Camp), the Civil Air Patrol/Aerospace Education, and others.

Additional leadership has been given to a national level ***eXtension*** Community of Practice for Youth in Science, Engineering, & Technology through the Cooperative Extension System. This is now the ***4-H Learning Network***, a concept for an overall approach for youth content and community extended through the eXtension environment put forth for the larger land-grant and CES system.

**Significant Contributions and Professional Activities:**

* Preparation of the Statewide 4-H Program Budget, 2015 to present
* Program Evaluation Strategies, 2007 to present
* Rural Sociology 7410 Extension Methods, Co-Instructor, Spring Semester 2014 and continuing; developed the course syllabus and online course in the AU Canvas LMS, 1/13-4/25/2014
* Principal Investigator and Leader for development of a 4-H Digital Badge System, 2012-present
* Co-Leader, Future Trends in Education, An Auburn University Think Tank, 2008 – 2012
* Project Leader for the 4-H Learning Network, an eXtension Community of Practice, 2006-present
* National 4-H Science, Engineering, & Technology Leadership Team, 2007 to 2011
* National 4-H Curriculum Jury, Chair, Science & Technology Jury, 1994-2006
* National Coordinator (adhoc), Aerospace Education in 4-H, 1991 to present
* 4-H Missions in Space; partnership with Space Camp in Huntsville, AL, 1990-present with over 15,000 youth and adult participants to date
* Multiple Aerospace workshops for educators throughout Alabama, Southern states and other parts of the country, 1990 to present
* Member, National Network for Science & Technology, 1994-99; a Cooperative Extension System supported network of Extension Specialist in Youth Development
* Chaired related National Symposia in 1996 and 1998.
* Steering & Design Committee, 4-H Aerospace Adventures, A National 4-H Curriculum, produced a compact disk version. 1998 and 2002 revision.

**Awards and Honors**

Nov., 2020 **Meritorious Service Award** (pending, submitted by state association)

**National Association of Extension 4-H Agents**

May, 2001 Certificate of Recognition for Five years of commitment to Space Day and its Leadership in Math and Science Education; by John Glenn and Vance Coffman (CEO Lockheed Martin)

Dec., 2000 Certificate of Recognition for 20 Years of Service, U.S. Government

Nov., 2000 ***Distinguished Service Award***

***National Association of Extension 4-H Agents***

Nov., 2000 Letter of congratulations from Don Floyd, President/CEO

National 4-H Council

Sept., 2000 Distinguished Service Award, Alabama Assoc. of Ext. 4-H Agents

May, 2000 Space Day, Embrace Space Certificate of Recognition

Embrace Space Initiative, John Glenn, Vance Coffman

Nov., 1996 Certificate of Merit in Juried Curriculum review

Cooperative State Research, Education & Extension Service, U.S.D.A.

**Significant Grants Received**

1. National 4-H Council; Google CS Accelerator ($20,000, 2020)
2. National 4-H Council; Eager NSF for Broadening CS ($9,000, 2019-20)
3. National 4-H Council; Google CS Pathway ($50K, $38K in-kind and $12K in funds, 2017-18)
4. National 4-H Council; Lockheed-Martin 4-H Career Pathways ($15K, 2015 to 2018)
5. eXtension; $67.5K for 2006-09, $45K for 2009-11, $22.5K for 2012-13, $50K for 2014-15 in support of For Youth, For Life Community of Practice/4-H Learning Network ($185K total)
6. HASTAC, DML, UC Irvine; $150,000 for 4-H Digital Badges, 2012-14
7. NASA via Will Technology & AETOS; $14,568 for 2011, $10,355 for 2012, $11,460 for 2013, $6,047 for 2014-15, NASA Summer of Innovation programs ($42,430 total)
8. Auburn University, VP for Research; $150,000 for 2012-14, 4-H Learning Network (For Youth, For Life Learning Network, eXtension) and digital learning
9. OJJDP, National 4-H Council, Alabama A&M; $40,407 for 2010-2012, $19,838 for 2011-2013, $24.6K for 2013-2014, 4-H LIFE Mentoring Program ($84,845 total)
10. NASA; $50K for 2004-2005, Extending NASA Education Resources through 4-H

**Significant Publications**

* Barker, Bradley S., Valentine, N., Cook, John A, “Digital Badges in 4-H”, Journal of Extension, June 2013
* Strickler, Andrew G., Cook, John A., Calongne, Cynthia A., Langer, Arthur M., “Just-in-Time Teaching Using Cloud-Optimized Web Applications For Low-Residency Blended Learning” 2012, presented at the 2012 Society for Applied Learning Technologies Conference, Orlando, FL
* Justus N. Nyagwencha, Cheryl D. Seals, John A. Cook, “Usability of a Collaborative Tool for Sharing Best Practices: An Empirical Study” Submitted Journal article to Journal of Usability Studies, Spring 2012, Auburn University, Samuel Ginn College of Engineering.
* Nyagwencha, J., Seals C. D., Cook, T., Educational Communities Supported Within a Cloud, Auburn University Research Week 2012 (research paper).
* Strickler, Andrew G., Hardy, K., Stricker, E. S., Scibner, T., Cook, John A., Calongne, Cynthia A., Flitter, K. L., Arenas, Fil J., “Third-Space Architecture for Learning in 3D” Proceedings of the 2011 Military Modeling & Simulation Symposium, April 2011
* Cook, J.A., Bowles J., 2008, “4-H S.E.T. Readiness Survey,” Report to National 4-H Council
* Cook, J. A., 2005, NASA Explorer Institute Focus Group – Extending NASA Education Resources Through 4-H, Un-Published Report to NASA
* Cook, J. A., 1996, Steering Committee and Design Team for new 4-H Aerospace Curriculum, Aerospace Workforce Skills for Life Series – 4-H Aerospace Adventures, 1996, Revised 2002
* Cook, J. A., 1994-1999, SKYLIGHTS – An Aerospace Education Newsletter, 4-H Aerospace Education Programs, Distributed nationwide to County Extension Offices (5,000 copies per issue)
* Cook, J. A., 1996, A National Vision for Aerospace Education, Follow-up Report to National Vision for Aerospace Education Meeting in Washington, DC, Un-Published Report
* Forbes, R. E., McClendon, R. W., Cook, John A., 7/80, "Solar Air Heater in a Pre-Engineered Metal Building,” Transactions of the American Society of Agricultural Engineers, Volume 23, No. 4, 4 p.

**Membership in Professional Organizations:**

***American Society of Agricultural Engineers***, 1976-2010

Alabama Extension Specialists Association, 1982-2005

Annual Board Meeting, Board Member 1999, 2000. 2001, 2002

Member, Professional Advancement Committee, 1983.

Member, Annual Awards Banquet Committee, 1983.

Member, Annual Meeting Committee, 1982.

***Alabama Association of Extension 4-H Agents***, 1983-present.

Board Member, Policy & Resolutions, 2014-present

Board Member, Senior Director, 2000-2001

Board Meeting, Clinton, AL, 12/3/1999

Board Member, Junior Director, 1999-2000

Board Member, Senior Director, 1987

Board Member, Junior Director, 1986

***Educause,*** 2014-present

***National Association of Extension 4-H Agents***, 1983-present.

National Association for Science, Technology and Society, 1988-1990.

***National Network for Science & Technology***, 1994-2000

Association for Supervision and Curriculum Development, 1999-2010

University Aviation Association, 1998-2002

Women in Aviation International, 1998-2002

Alabama Community Education Association, 2000-present.

**Special Leadership Assignments:**

**4-H Learning Network (eXtension)**

Additional leadership has been given to a national level ***eXtension*** Community of Practice for Youth in Science, Engineering, & Technology through the Cooperative Extension System. This is now the ***4-H Learning Network***, a concept for an overall approach for youth content and community extended through the eXtension environment put forth for the larger land-grant and CES system. The 4-H Learning Network is a fundamentally different approach for providing content and learning community to the youth audience and its facilitators in 4-H. Creating an online learning environment has been the primary effort of the CoP in order to engage a youth audience in today’s technology oriented society. Efforts in this work to date leaves a foundation from which much more may be done including more recent work in how to acknowledge learning achievement in a digital form through digital credentials/badges in 4-H.

**National 4-H Digital Badges Project**

Digital badges are about learning and recognizing that learning in a digital form! Four-H is rich in its history of engaging young people in learning and recognizing learning achievement in many forms. As 4-H evolves into the world on online learning digital forms of recognition will as well. This is how digital badges in 4-H can be used. **Digital badges** are graphic symbols or indicators of an accomplishment, skill, quality or interest. It is an online record of achievements issued on the basis of work completed to obtain it.  Digital badges in 4-H can be a motivator for learning across many content areas in 4-H but also across other communities and institutions. Following Mozilla’s Open Badge Infrastructure, 4-H is developing a means of supporting a badge system to support learning through 4-H experiences. The basic process is as follows:

* A learner chooses a ***learning experience*** to pursue; 4-H curriculum, projects, etc.
* A learner meets the ***learning criteria*** established for any given badge
* An adult leader ***verifiies*** that the criteria have been met
* Submission to the badging system ***requesting a badge*** ***issuance***

Leadership was given to a collaborative effort to create a prototype of a digital badge system for use in 4-H nationwide. An initiatl collection of badges on robotics were developed with faculty from the University of Nebraska which included an online form of assessment of learning. The badge system was tested and deployed on a limited basis in 2013. Continued efforts in this area include the development of an online learning system in which digital badges are integrated as the digital form or recognizing learning achievement in 4-H and subsequently in other areas pertinent to land-grant university interests.

**Assignment to National 4-H Aerospace Program**

In 1991, and by agreement between the Alabama Cooperative Extension System, National 4-H Council, Cooperative Extension Service - USDA and the U.S. Space & Rocket Center, a new program was established on a national basis in support of science & technology literacy. The agreement called for **25%** of the Specialist's time to be devoted to support of aerospace programs in 4-H. A special camp program was established with the U.S. Space Camp for 4-H called ***4-H Missions in Space***. Coordination, marketing and program development support was required in cooperation with the Space Camp management for the duration of the program. Coordination of aerospace related curriculum and other programming efforts on a national basis were also part of assigned duties. Those duties included; training for extension staff and volunteers, promoting aerospace education resources, and working with the aerospace community in providing resources and curriculum support to 4-H throughout the country. Approximately 50 different sessions were conducted at Space Camp in Huntsville, Alabama and Titusville, Florida in the course of ten years. Approximately ***10,000 youth, volunteer leaders and extension staff from more than 45 states & U.S. territories*** participated in various programs through this initiative. Many workshops were provided to adults on educational resources available from NASA during 4-H Missions in Space sessions. A ***4-H Missions in Space Leader Guide*** was developed in 1993 and was distributed to several hundred participants. The 4-H Missions in Space program was renewed in 2002 and provides a significant discounted fee structure to groups participating through 4-H. Currently, there are discussions of renewing the collaboration in 2019 and beyond.

**SKYLIGHTS –** A newsletter to promote aerospace education resources, ***SKYLIGHTS***, was introduced as part of the overall 4-H Aerospace Education in the U.S.A. Issues were produced from 1994 to 1999 and were distributed nationwide to ALL 3,150 County Extension Offices and several hundred other readers throughout the country (Distribution of 5,000 per issue).

**Space Day –** The Specialist was named to the **Space Day Educational Advisory Committee** in 2001 and worked as a communications coordinator for reaching the 4-H community and also as a regional communications coordinator for this significant outreach effort from 1997 to 2005.

The Specialist continues as an ad hoc liaison for the Cooperative Extension Service with the aerospace community.

**National Network for Science & Technology (NNST)**

The National Network for Science & Technology (NNST) was a network of Cooperative Extension Specialists from universities throughout the country that functioned mainly from 1994 through 1999.

The NNST mission:

***“Building capacity for improving literacy in science and technology through the support of creative and effective learning environments.”***

Work toward the mission was accomplished through collaboration of the member universities and other partners. Each member specialist contributed in various ways as part of the larger team. The Alabama Cooperative Extension System and Auburn University was involved through the Specialist for Science & Technology who played a key leadership role in many areas including:

* NNST Management Committee, 1994-1999
* ***National Science & Technology Symposium***, Chair, 1/1996

More than 300 participants from 45 states & U.S. territories

More than 60 educational workshops and tours to science learning environments

New, national partners; Eisenhower National Clearinghouse, Triangle Coalition,

A delegation of four Extension Staff from Alabama participated

* ***National Science & Technology Symposium***, Chair, 1/1998

Approximately 300 participants from more than 40 states & U.S. territories and six (6) other countries.

More than 60 educational workshops and tours to science learning environments

New partners; Bellsouth, 3M, (Newton's Apple), National Academy of Sciences

A delegation of 16 Extension Staff from Alabama participated as part of their involvement in Alabama 4-H’s Science & Technology Literacy Program

* ***National Liaison to the Aerospace Education Community***

Recognized as a leader in developing a national focus for aerospace education.

Facilitated a ***National Vision for Aerospace Education***, meeting, Washington, DC, 12/1996

***Products of the National Network for Science & Technology included:***

* National Science & Technology Symposium, Program & Abstracts, 1996
* Science Guidelines for Non-Formal Education, 1997
* National Science & Technology Symposium, Program & Abstracts, 1998
* ***Four Fold Youth Development Model***, 1998
* Developing Experientially Based 4-H Curriculum Materials, 1999
* Evaluating 4-H Curriculum Through the Design Process, 1999
* Limited funding was provided to the 4-H Aerospace Education newsletter, ***SKYLIGHTS***, which was produced under the auspices of the NNST.

While the National Network for Science & Technology no longer functions formally, the Specialist has continued to pursue and support science & technology literacy program efforts within the state of Alabama and through the Aerospace Education arena on a national basis as previously described under the aerospace education work.

**National 4-H Curriculum Jury, Science & Technology Jury Chair**

The National 4-H Curriculum Jury process was begun in 1994 to assure quality curriculum development and use throughout the Cooperative Extension System nationwide. The Specialist was invited to serve as the first Jury Chair for the Science & Technology Jury. The National Juried Collection listed 17 different items under Science & Technology most of which were juried under the Specialist's direction. Several National Juried Curriculum in Science & Technology have been used in the Alabama 4-H Youth Development Program including:

* ***Insectaganza of Excitement***
* ***Electric Excitement***
* ***Achieving High Goals***
* ***The Fabric Flight Connection***
* ***Funtivities***
* ***Soaring Above & Beyond Aerospace Series***
* ***Woodworking Skills***
* ***Computer Mysteries***

# **Program Development & Leadership (mid-1990s to 2002, continuing)**

As the State 4-H Specialist staff diminished in numbers, greater work was required in the area of program development, planning, implementation and evaluation. Further, the Alabama Cooperative Extension System had established a new program planning and reporting process, State Major Programs and Extension Team Projects. In incorporating new work into the position, the ***Specialist*** initiated Extension Team Projects (ETP’s) in the Science & Technology area as appropriate. The ETP process required development and planning but also program leadership for the field staff that planned work in the area addressed by any given ETP. Training, guidance and direction of programming is a greater and stronger function of the ***Specialist*** than had been required previously.

Program leadership also grew in the area of developing comprehensive County Program Plans in the 4-H Youth Development area. An initiative to expand volunteerism in the 4-H Youth Development program led to a need to provide additional guidance and leadership to county staff. The Specialist developed a Planning Guide in 2001 which has been used by counties as comprehensive program plans were developed. Leadership has been provided in workshops and individual consultations in the northern district of the state in 2001 and 2002 and is provided as a function of the position thus expanding the leadership role of the ***Specialist.***

This area of work continued to evolve and has gone through many changes with new leadership for ACES and 4-H. The Specialist continues to be involved accordingly.

**Leadership to Computer Data Base Management, mid-1980’s to 2014**

Duties primarily included the on-going development, maintenance, and support of a youth participant database system for Alabama 4-H. From the mid-1980s through mid-1990s 2014, the work included the development and use of computer data base programming (used to generate the state’s ES-237 Report). It also included the development of user guides and training for users of the program. Users included county extension agents and secretarial staff. The database system was updated and reports compiled annually. Statistical summaries and analysis are prepared for use in program planning and development as well as reporting purposes. Additional description of this work is provided under Major Contributions and Other Extension Contributions.

In the mid-1990's, a new database system was initiated in Alabama. The new system was commercially available and provided software development and training. Overall management and support for use of the system remained a duty of the Specialist. Reporting of youth enrollment data for state and federal use is a requirement of the process. Further, in 2000, a scan form system for collecting participation data was initiated to improve data processing efficiency.

Additional computer support from the ***Specialist*** developed with the increased use of computers in the State 4-H Office and in the counties. The use of e-mail lists and shared disk storage space required new management techniques within the state office as well as utilization of the World Wide Web. The Science & Technology Specialist supported these areas as well as the design and support of web sites for the System. Total management and support was provided to the Alabama 4-H web site.

Leadership began in 2003 to direct a new database system statewide. Leadership in training and developing a support system was critical in this project as it incorporated the first web-based system in 4-H Youth Development used anywhere in the nation. Online involvement of youth, volunteers, educators and extension staff would be possible with this new capacity.

In 2014, all youth enrollment and database management duties were reassigned within the 4-H Youth Development Department as the Specialist focused on other areas of activity. The new enrollment system is one supported independently in a majority of states including Alabama.

**Youth Leadership Development**

The ***Specialist*** briefly provided leadership in the area of youth leadership development through the state’s 4-H Academic Awards program, delegations to National 4-H Conference, and delegations to the National 4-H Congress during the late 1990s and early 2000s.

**Collegiate 4-H**The position provided leadership to and served as faculty advisor for a group of Auburn University students in a Collegiate 4-H Club. Collegiate 4-H at Auburn University began in April 1988. During the 1988-89 school year the club became chartered as an official campus organization. The group's purpose was service and support for the 4-H program as well as personal development. Members worked under the Specialist's guidance with State 4-H Congress in 1988 and through the mid-1990s. A delegation was involved in a Southern Regional Meeting in Baton Rouge, LA. in 1989. The group was very active taking part in programs as volunteer leaders in 4-H Roundups, State 4-H Congress, state office activities and county visits. One student advisee from Alabama served as the National Collegiate 4-H Intern in 1993-94. Membership ranged from less than ten to as many as 40 during its period of activity. The Collegiate 4-H Club became less active in the late 1990's but in 2002-03 became reactivated for a brief time with the ***Specialist*** continuing as Faculty Advisor. The program is currently inactive.

**Comprehensive Dossier**

In addition to this curriculum vita highlighting a variety of aspects of my career, a more comprehensive 70+ page dossier may be provided upon request.