IEEE Educational Activities Board
EAB Board Meeting Nov 21, 2015

“Heavy Growth into Life-Long Education”
Formal, In-Formal, and Un-Formal
In School and Beyond School, Life-Long & Life-Wide
In-Class, On-Line … In-Lab & Hybrid

K-12, STEM & CTE, Community College, University
plus After School … and Continuing Pro. & Tech. Ed
plus On-The-Job & Work-Based Experience (RVA)

REACs to Collaborate Globally & w SEACs
IEEE EAB Proposal at April Conference: “OFSSR”

Office of Fiscal Sponsorship & Sponsored Research
IEEE working with College & University Foundations, ORUs, C&Is, C&Cs

for Sustainable Project Financing:
  past, present & private+public partnerships:

  **EWD/CTE Contracts:** WIB, WIP, YEP, DSN, TVTC, Int’l …
  **IEEE Foundation:** Strategic New Initiatives, EPICS, Apprenticeships
  **Calif. Energy Commission:** Advanced Energy Communities
  **Green Billion Challenge/LEEF:** Green Revolving Foundation Funds
  **Tech HIRE:** $100 Million H1B Visa Pool for High Tech Training
  **Corporate Clients:** Project Development and Placement Contracts
  **NSF:** Research in the Formation of Engineers - You Too!
  **ED, DOL, DOE, NIH …**
Rebranding IEEE?!
the Institute for Engineering, Entrepreneurship & Empowerment!

IEEE EA Launches: Industry+Academia Collaborative (IAC):

the IAC “BRAIN Centers & Collaboratives” Initiative
Business Resource Assistance & Innovation Network
On Site, On Line, and HYBRID

Shared
IEEE-Sponsored
Real & Virtual
PTE Lab Spaces

Industry Collaboratives
Shared Resources, JVs, Business Incubators

Campus Centers
Events at Universities & Community Colleges

IEEE PTEC, in Irvine
Professional & Technical Enterprise Collaborative

CSUPERB Biotech Initiative
PCC Biotech Center
SD Biotech Center

Hal & Bettye Walker Center
@ Los Angeles Southwest College
& LASC Foundation
IEEE’s Industry+Academia Collaborative
for Life-Long Learning & Sustainable Economic Development

Applying for $100,000 x 3yr NIC “BRAIN C&C” Proposal:
IEEE-Sponsored Joint Program Training Centers (JPTCs)
& Tool-Box Training & Certification Labs (TB/TCLs)

for Hybrid Courses, ToolBox Workshops & CONFERENCES
& JCP: Joint Certificate Programs, JBP: Joint Bachelors Programs,
JMP: Joint Masters Programs, JDP: Joint Doctoral Programs

Embedded Systems Engineering - Manoel Ramon
Manufacturing Engineering - Roman Fry
Environmental Science, Technology & Engineering - John Moore
Entrepreneurship Bootcamps - Andrew Ngui
MBEng: Masters in Business of Engineering - IEEE+MIT
Oct 14th:

From Apollo 11’s Lunar Laser Ranging Experiments to STEM, CTE, Lifelong Learning and Economic Development

a Community Tech Café Honoring Hal & Bettye Walker
Prof. Hal Walker

Dr. Bettye Walker
Pioneer of STEM Education & Community Empowerment, Co-Founder of A-MAN Inc.

Mr. John Moore
NSF Einstein Fellow, PCAST, GLOBE Distinguished Fellow, “Father of GeoSTEM & Earth SySTEM”
Hal Walker Keynote Presentation:
Apollo 11: on Missions, Lasers & Legacies
$50,000 Gift to LASC Foundation:
Establishing the Hal & Bettye Walker Center for Sustainable Economic Development and Life-Long Learning
IEEE Joint Development Programs, Scholarships & Apprenticeships ... 

STEM & CTE: **K-12, CC, Uni, and Continuing Professional Education:**
formal & informal, in-school, out-of-school, career readiness

CTC: **Community Tech Cafés for STE(a)M, CTE & Entrepreneurship:**
outreach programs for MS, HS, CC, Uni & General Public

TBTL: **Tool Box Training Labs, Data Centers & Virtual Workshops:**
train to current industry tools, industry-equipped

JPTC: **Joint Program & Job Placement Training Centers:**
joint = industry-financed private-driven PPPs with academia
IEEE Educational Activities IAC: the Industry+Academia Collaborative presents

the Inaugural IAC Conference on

Public-Private Partnerships for

Sustainable Economic Development and

Life-Long Learning

Golden West College — January 7, 2016
IEEE Educational Activities IAC: the Industry+Academia Collaborative

Conference Co-Chairs:

Brian Hagerty, Doctoral Candidate
IEEE Chair of Education Activities, Region 6
Executive Director, Copernica Institute

Anu Gokhale, Ph.D.
IEEE Chair of Education Activities, Region 4
Prof. of Technology Ed, Illinois State University

David Gatewood, Ph.D.
Dean of Business & Career Technical Education, Golden West College
Today’s Talking Points: Industry+Academia Collaborations (IAC) for Life-Long Learning (LLL) & Sustainable Economic Development (SED)

Joint Industry+Academia Collaborations with Universities:
Illinois State University, Cal Poly Pomona, CSUF, etc.
- ORUs & Joint Degree Programs: JBachP ESTE, MBEng, JDocP, DEng
- IEEE-sponsored Joint Program & Job Placement Training Centers (JPTCs)
  & ToolBox Training Labs (TBTLs)

Joint Industry+Academia Collaborations with Community Colleges
Golden West College, Los Angeles Southwest College, Rio Hondo CC, etc.
- BRAIN Centers & Collaboratives, TBTL/JPTCs,
  Community Tech Cafés & IEEE “Majors” Clubhouse Programs

Joint Industry+Academia Collaborations with K-12 and After-School
ACSE, A-MAN STEM Discovery Centers, Listo America, Vital Link, etc.
- IEEE/Intel ICCN “Minors” Computer Clubhouse Programs
- IEEE CTSOs: Career & Technical Education Student Orgs

IEEE’s IAC SED, LLL & RVA (compare UNESCO’s SED, LLL & RVA): the PICAA initiative:
- Professional & Industrial Credentialing & Accreditation Association
  (RVA = for Recognition, Validation & Accreditation)
the Collegiate Business Partnership
“Pipeline to Placement” Model
CBP P2P: a Community of Practice Model

INDUSTRY ENGAGEMENT

Collaborative Activities:
facilitated by Industry
Associations like IEEE,
Community-Based
Organizations,
Extra-Curricular Educators
& District Support Organizations

Worker Learning …

Common Cause Partnerships
& Private-Sector Philanthropy

Industry-Driven Economic Projects
& PPP Project Financing

Student Learning …

ECONOMIC RAIL

EDUCATIONAL RAIL

EDUCATIONAL ENGAGEMENT

EDUCATIONAL PATHWAYS TO
COLLEGE PLACEMENT

Beginning with Real Economic Projects & Industry Financing

Career Exploration

Work-Based Learning & Pre-
Apprenticeships

Paid Internships,
Apprenticeships,
& On-the-Job
Training

Full-Time/
Part-Time
Career Employment

Middle School
Grades 7, 8, 9

High School
Grades 10, 11, 12

Community College
Grades 13, 14

University
Grades 15, 16

CTE/ROP, ED, NSF Educational Grants

DOL, ED Workforce Training Grants
Technical and Vocational Education and Training: Issues, Concerns and Prospects

Madhu Singh

Global Perspectives on Recognising Non-formal and Informal Learning

Why Recognition Matters

Executive Summary

Incomes, job security, and economic growth increasingly depend on postsecondary credentials with value in the labor market.

Postsecondary credentials are the keys to individual self-sufficiency, greater civic participation, and higher levels of family well-being and the catalysts for local, regional, and national economic growth. With the inexorable shift in the global economy toward a demand for higher-order skills, this labor market maxim is more relevant than ever, leading economist Anthony Carnevale to refer to access to postsecondary education and training as the “arbiter of opportunity in America.”

Success in the labor market increasingly requires workers to demonstrate competencies in thinking critically and applying new skills to ever more complex technology, as well as to demonstrate the ability to learn wholly new skills in short order— in short, workers must have the sort of preparation provided through postsecondary education.

The need for a workforce that is better prepared to compete in the global economy has not gone unrecognized by policymakers and advocates. For evidence of this, we need only look as far as the current administration’s emphasis on dramatically expanding the number of high-quality postsecondary credentials awarded over the near term, or at the rapidly increasing foundation investments devoted to ensuring postsecondary and economic success.

At the same time, the chaos in the nation’s current credentialing system and the lack of clarity over the consistency and market relevancy of degrees or other credentials that lack third-party validation confuses employers and consumers alike.

A vast number of adults in the labor market engage in creditworthy occupational education and training, but, in the absence of a system that can equate noncredit occupational education and training to educational credit, they cannot translate their education and training into postsecondary credit.

Often overlooked in discussions of increasing the number and quality of postsecondary credentials awarded is that a great deal of credit-worthy education and training is taking place, but it is often disconnected from educational pathways that could lead to postsecondary certificates or degrees. Noncredit occupational education and training

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