



# IEEE Educational Activities Report

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R6 EA Chair

**Region 4,5,6 “JAM”  
Joint Activities Meeting**

**Las Vegas, Excalibur  
January 29, 2016**



# 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**

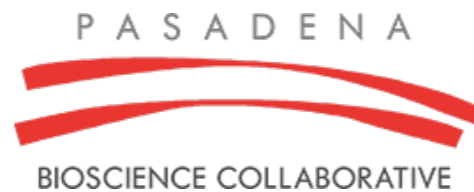
**On Site, On Line, and HYBRID**

**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***

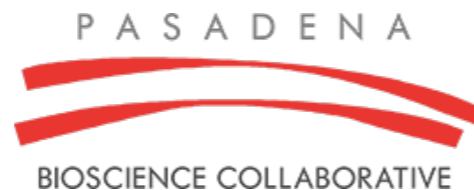
***Manufacturing Engineering - Roman Fry***

***Environmental Science, Technology & Engineering - John Moore***

***Entrepreneurship Bootcamps - Andrew Ngui***

***MBEng: Masters in Business of Engineering - IEEE+MIT***

**IEEE PTEC, in Irvine**  
**Professional & Technical**  
**Enterprise Collaborative**

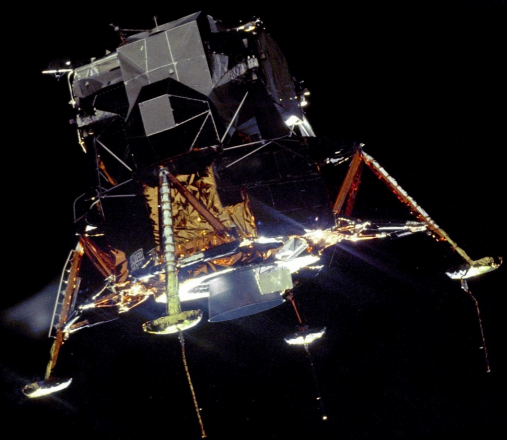


**CSUPERB Biotech Initiative**  
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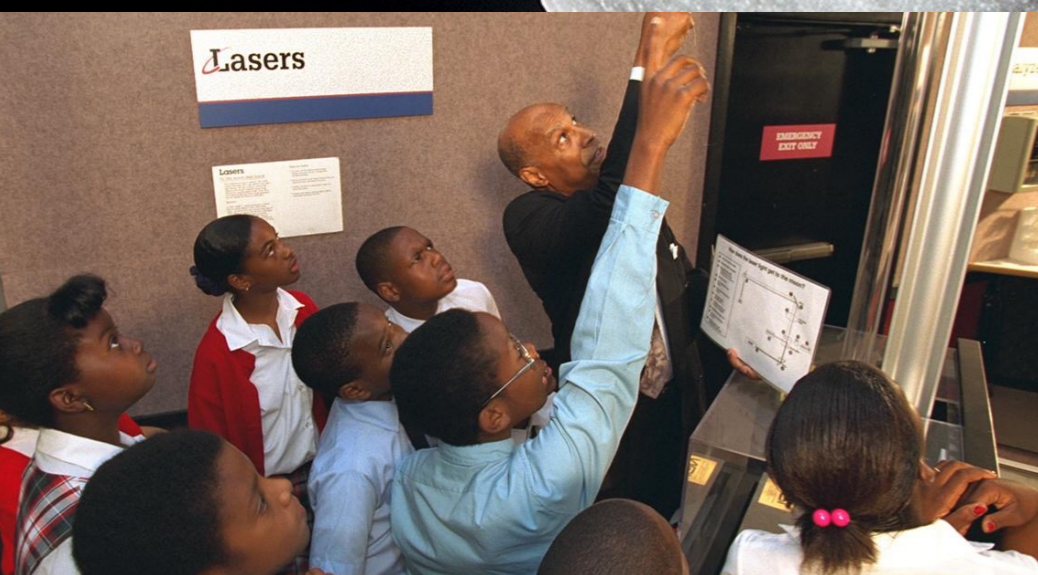


**Oct 14th:**



**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**

Pioneer of Laser Science & Engineering, Apollo 11 LURE, Co-Founder of A-MAN Inc.

## **Dr. Bettye Walker**

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

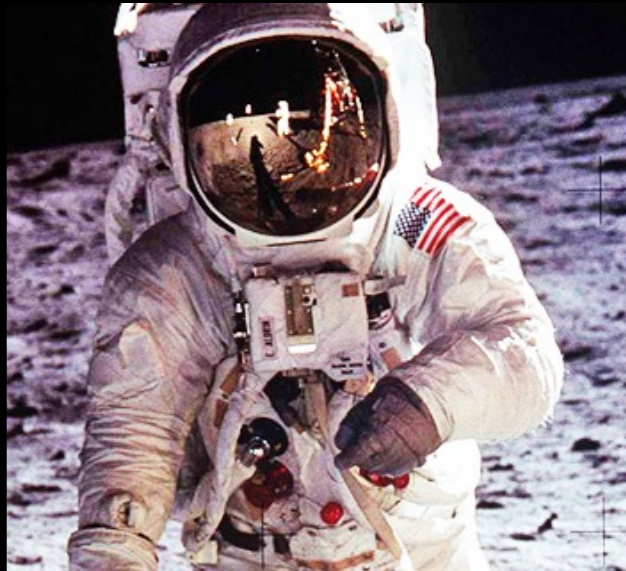
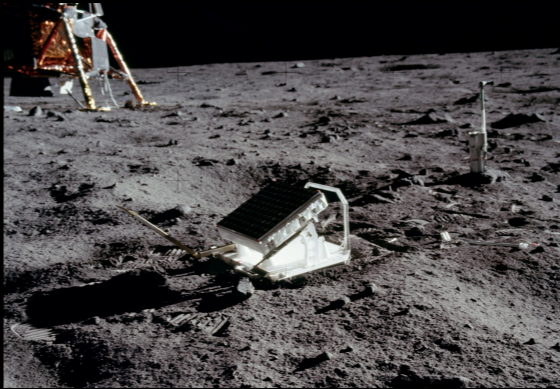
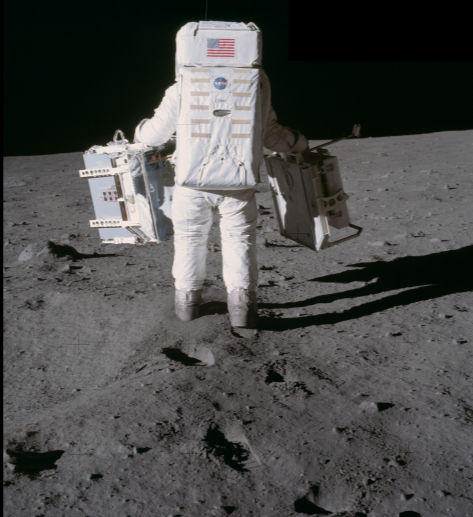
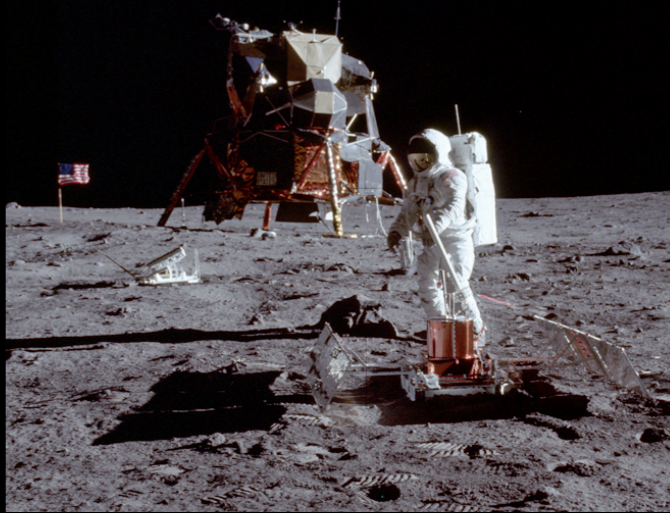


## **Mr. John Moore**

NSF Einstein Fellow, PCAST, GLOBE Distinguished Fellow, “Father of GeoSTEM & Earth SySTEM”

# Hal Walker Keynote Presentation:

## Apollo 11: on Missions, Lasers & Legacies

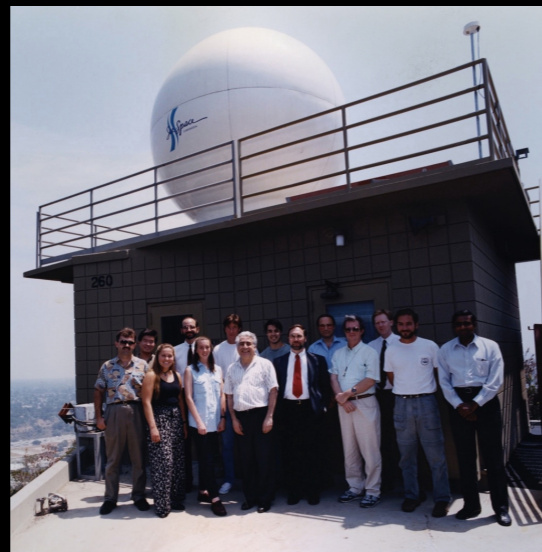
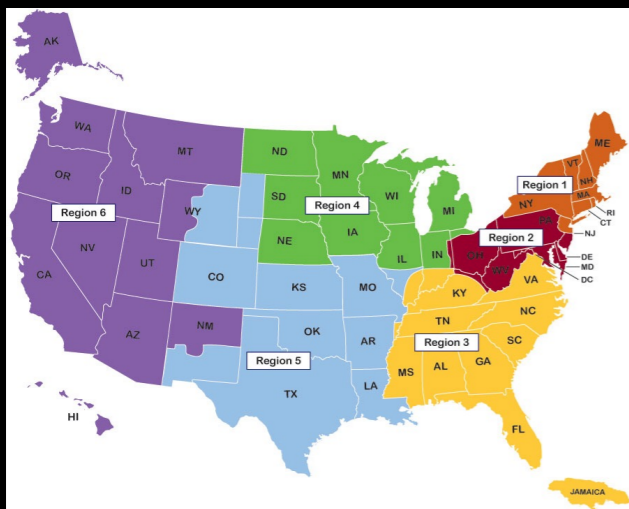




# \$50,000 Gift to LASC Foundation:

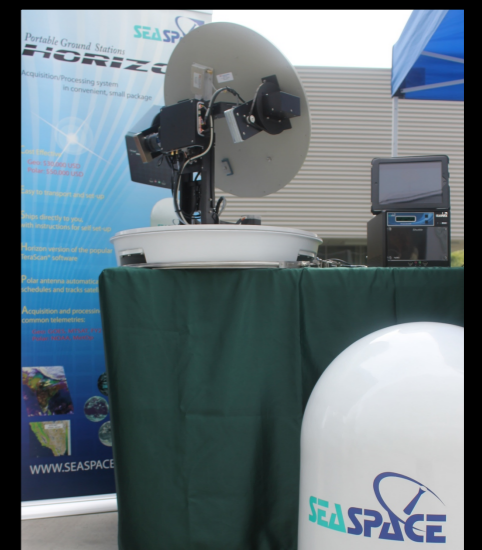
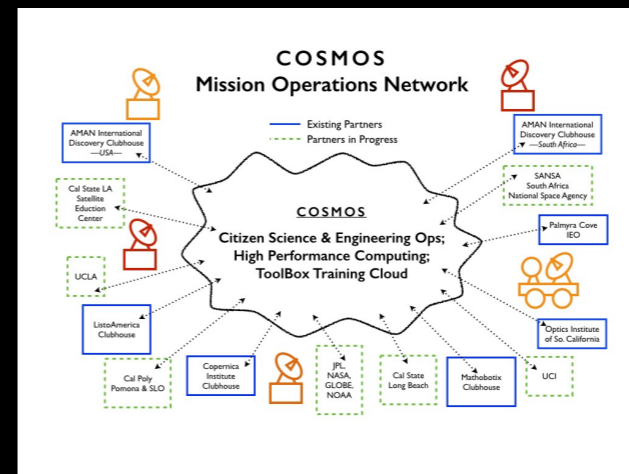
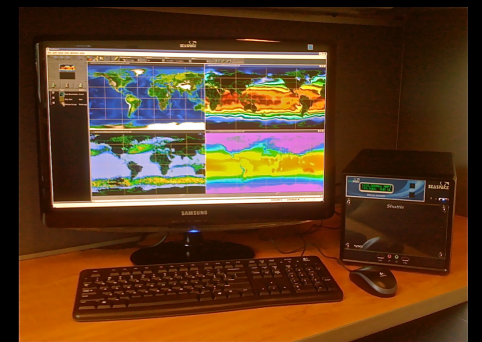
## Establishing the **Hal & Bettye Walker Center** for Sustainable Economic Development and Life-Long Learning

IEEE Educational Activities Board,  
ABET, and IEEE Foundation



NASA/JPL  
LEO Project

Walker  
Station  
at LASC



LOS ANGELES  
SOUTHWEST



COLLEGE



**Hal & Bettye  
Walker Center**  
for Life-Long Learning  
and Sustainable  
Economic Development  
@ LASC Foundation

**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

**Todays' 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:

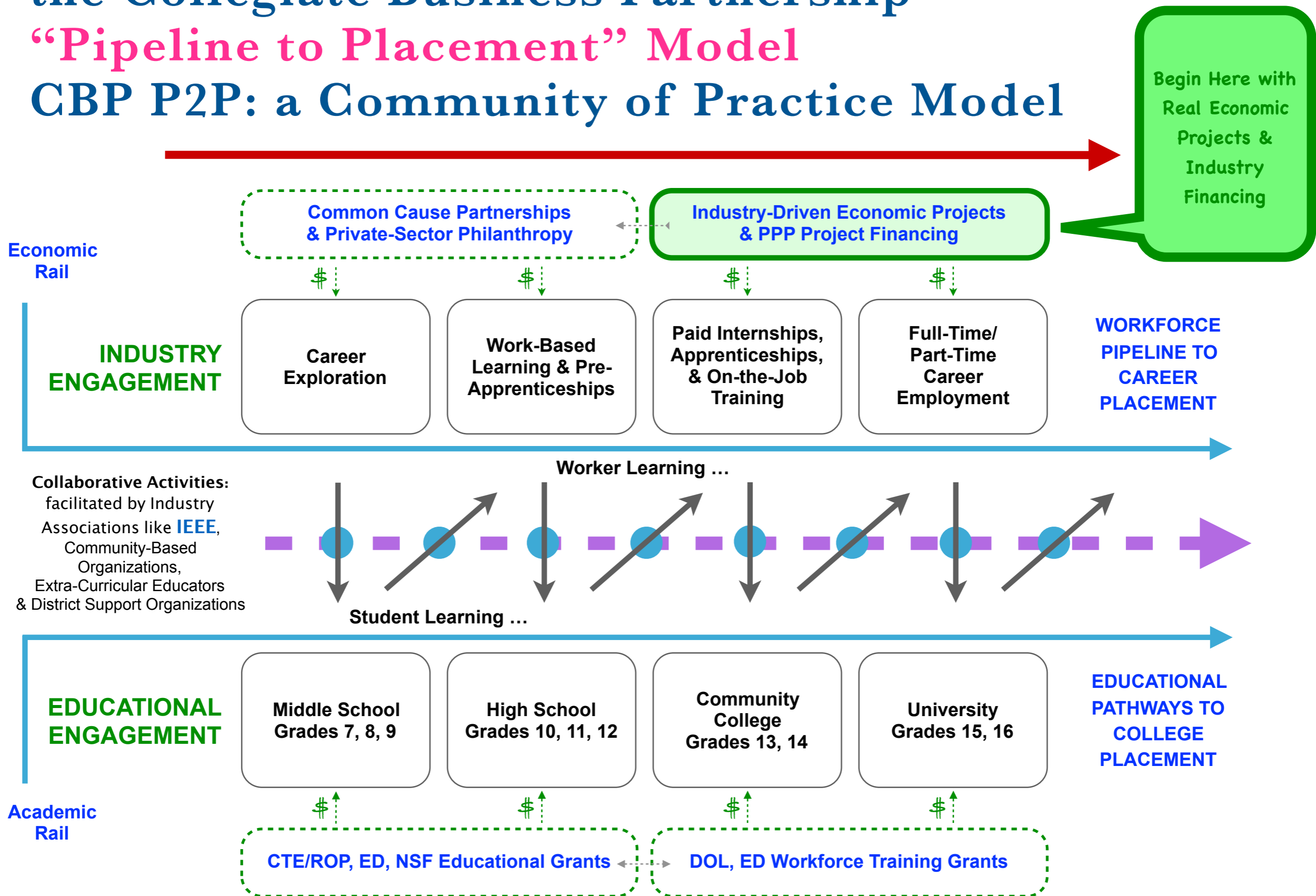
**Professional & Industrial Credentialing & Accreditation Association**

(RVA = for Recognition, Validation & Accreditation)

# the Collegiate Business Partnership

## “Pipeline to Placement” Model

### CBP P2P: a Community of Practice Model



# the EAB **PICAA** initiative: for Skills Badging & Stackable Credentials.

## Professional & Industrial Credentialing & Accreditation Association (RVA = for Recognition, Validation & Accreditation)

Technical and Vocational Education and Training:  
Issues, Concerns and Prospects 21

Madhu Singh

# Global Perspectives on Recognising Non-formal and Informal Learning

Why Recognition Matters



Springer Open

CENTER for POSTSECONDARY and ECONOMIC SUCCESS

### Giving Credit Where Credit is Due:

Creating a Competency-Based  
Qualifications Framework for  
Postsecondary Education and Training



APRIL 2011 | EVELYN GANZGLASS, KEITH BIRD & HEATH PRINCE

#### 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.”<sup>1</sup> 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

#### Acknowledgements

This report was written in collaboration with Corporation for a Skilled Workforce, and a deep debt of gratitude are owed to CSW Chairman Larry Good, President and CEO Jeannine La Prad, and co-author and CSW Senior Policy Fellow Keith Bird. Thanks are also owed to the many who provided their thoughtful, instructive, and insightful comments on drafts of this report. The authors would like to thank the following: Jim Applegate, Barbara Border, Paula Compton, Vickie Choitz, Jayson Chung, Emily DeRocco, Michelle Fox, Pam Frugoli, Parminder Jassal-Head, Becky Klein-Collins, Mimi Maduro, Mary Alice McCarthy, Holly McKiernan, Rebecca Nickoli, Eleni Papadakis, Ann Randazzo, Volker Rein, Jim Selbe, Whitney Smith, Louis Soares, Julie Strawn, Jeff Strohl, Roy Swift, Pam Tate, Valerie Taylor, Sarah White, and Joan Wills. A special note of thanks is owed to Marc Miller for editing on the report.



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