

PASSHE Tech Transfer and Commercialization



Faculty Briefing
June 17 2009

Presenters

- ✘ Ronald J. Huss, Assoc. VP, Research, Technology Transfer Director, The Pennsylvania State University
- ✘ Michael Mottola, Asst. VC for Labor Relations, Office of the Chancellor
- ✘ Mary Frances Postupack, VP, Economic Development and Research Support ESU
- ✘ Mark Righter, Esq., McQuade Blasko
- ✘ Angela Smith-Aumen, Dir. Sponsored Programs, Office of the Chancellor

AGENDA

- ✘ Faculty CBA Article 39
- ✘ Bayh-Dole Act
- ✘ Key Patent Terms
- ✘ PASSHE Guidelines
- ✘ Services from PSRF
- ✘ Key University officials
- ✘ Keystone Innovation Grant
- ✘ Faculty Resources
- ✘ Student Intellectual Property

WHY DEVELOP TECH TRANSFER SERVICES?

Angela C. Smith Aumen

WHY DEVELOP SERVICES?

- ✘ Eliminate confusion and delays
 - + Not to make money
- ✘ Compliance
 - + Article 39, Bayh-Dole, Patent law
- ✘ Faculty service
 - + comparable to other institutions
- ✘ Economic Development
 - + make inventions available through patent protection & licensing

WHY DEVELOP SERVICES?

- ✘ Written Guidelines: A road map
 - + CBA Article 39
 - + federal Bayh-Dole Act
 - + Patent Law
 - + Penn State Research Foundation services



WHY DEVELOP SERVICES?

- × Benefit to faculty –
 - + Assess commercial potential.
 - + Professional marketing & licensing services.
 - + Participate in marketing, or not.
 - + University pays costs.
 - + Earn revenue with no out-of-pocket costs.
 - + No long term responsibilities.

APSCUF CBA

Michael Mottola
Asst VC Labor Relations

CBA AND INTELLECTUAL PROPERTY

Article 39 of the faculty collective bargaining agreement (CBA) yields to any applicable:

- Laws;
 - Regulations;
 - The provisions of any Grants, or;
 - The provisions of any Work for Hire Contracts.
- The CBAs of the other unions do contain an article similar to APSCUF's Article 39, thereby creating a need for separate guidelines for non-faculty employees.

CBA AND INTELLECTUAL PROPERTY

- × This policy was vetted via Article 39 through the APSCUF Meet & Discuss process.
 - + Article 39 compliance should be mutually understood.
 - + The recognition of the need for separate policies occurred.
 - + APSCUF's input was taken included in this draft.

CBA AND INTELLECTUAL PROPERTY

- Article 39 –
 - Defines
 - Intellectual Property with concrete examples;
 - Creator of the Intellectual Property;
 - Net Income;
 - PASSHE Resources/Support/Facilities.
 - Delineates procedures to determine ownership rights, substantial use/support of PASSHE resources;
 - Recognizes that creative work performed on grants, contracts and works for hire are controlled by said arrangement(s);
 - Agrees to submit disputes arising out of Article 39 to the Article 5 Grievance Procedure.

CBA AND INTELLECTUAL PROPERTY

- × **SUBSTANTIAL USE IS:**
 - + \$40,000
 - + Over three years
 - + Prior to invention disclosure

CBA AND INTELLECTUAL PROPERTY

- × SUBSTANTIAL USE includes:
 - + ALL Research Funding
 - + Staff, Student Workers, GA's, paid consultants
 - + Replacement faculty costs
 - + Materials, cash purchases
 - + Unrecovered Financial & Administrative costs
 - + Equipment & Lab usage
 - + University technology

CBA AND INTELLECTUAL PROPERTY

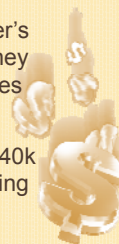
- × HOW IS SUBSTANTIAL USE COUNTED?
 - + Confirm faculty report
 - + Sponsored & internal grants/contracts
 - + Consistent and Cost effective method

PENN STATE RESEARCH FOUNDATION

- × The Penn State Research Foundation (PSRF) offers the faculty member the option to use its services at no cost to the faculty member to research the invention's:
 - Patentability
 - Marketability
 - Commercialization

PENN STATE RESEARCH FOUNDATION

- This is a *Cost/Benefit decision.*
- The use of PSRF is the faculty member's option (except when federal grant money or substantial use of PASSHE resources occur) , it is not a requirement.
- If the faculty member uses less than \$40k of PASSHE resources and/or is inventing on his/her own time the option exits.



PENN STATE RESEARCH FOUNDATION

- *What Cost?*
 - The cost to faculty of using PSRF is sharing a portion of net income with the University.
 - The cost of not using PSRF is personally spending the money on the patentability, marketability, and commercialization research, which averages \$25,000.

PENN STATE RESEARCH FOUNDATION

<i>Typical Patent Costs</i>	<i>Range of costs</i>
Provisional application	\$1,600- 3,500
Conversion of provisional	\$8,400- 15,000
USPTO Restriction requirement, two office actions	\$7,500- 12,000
Issue fees, publication	\$2,000- 4,000
Maintenance fees (3.5, 7.5, 11 yr)	\$3,785
National Stage (PCT) Initial filing fees	\$50,000-100,000

PENN STATE RESEARCH FOUNDATION

• *What Benefit?*

- The faculty member will benefit from using PSRF as opposed to paying for the service him/herself.
- In order to participate with PSRF the faculty member must agree to assign IP ownership rights to University.



Bayh-Dole Act

Mark Righter, Esq.
McQuade Blasko

BAYH-DOLE ACT



- × Passed in 1980
- × Federal law governing all federally funded inventions
- × Built in to virtually all federal grants and contracts
- × Gives Universities broad rights to commercialize and to “own” inventions

OWNERSHIP IS NOT AUTOMATIC

- × Common misconception:
 - + Ownership is automatic
- × University must take affirmative steps to “elect to retain title”
- × Requires filing of forms with government



TIMING REQUIREMENTS



- × Must disclose w/in 2 months of receipt of disclosure
- × Must elect w/in 2 years, or statutory bar, whichever is shorter
- × Must file a patent application w/in 1 year of electing to retain title, or statutory bar, which ever is shorter
- × w/in 10 months of US patent filing, must notify on foreign filing intent

ELECTION OF TITLE: COMES WITH RESPONSIBILITIES

- × “Title” does not mean “free and clear” from government
- × Government retains important rights
- × Government imposes important obligations



RIGHTS RETAINED



- × Non-exclusive royalty free right to use for government purposes
 - + This can limit commercial value
 - + Especially with technologies where government is a heavy user
- × March in rights
 - + In the event University is not successful in commercializing
 - + Or does so in a way where public does not benefit

OBLIGATIONS OF UNIVERSITY

- × Manufacture in USA
 - + Waivers if Univ. can prove no ability in US
- × Small Business preference
- × Must use reasonable efforts to commercialize
- × Reporting obligations
 - + DD-822 form
- × Note federal funding in patent application

PROHIBITIONS

- × Not to allow patents to go abandoned w/o notice
- × Not to assign to third parties
 - + Except subsidiaries for tech transfer

WHERE DOES BAYH-DOLE APPLY?

- × To any inventions that are either:
 - + Conceived
 - * Or
 - + Reduced to practice
- × Even if funding is only partially responsible for generation of invention
- × Casts a broader net than one might think

Key Patent Terms

Mark Righter, Esq.

INVENTION REQUIREMENTS

- × To get a utility patent. . .
 - + Novel –
 - × no one has done it before. . . .
 - × In the world. . . .
 - × Ever
 - + Useful –
 - × Must have value to a user

OWNERSHIP

- × Ownership follows inventorship
- × Inventors own unless “assigned”
- × Obligations to assign come with:
 - + Employment agreements
 - + Grant/research agreement

RESEARCH AGREEMENTS

- × Can impact ownership “picture”
- × SOW can be critical
 - + What are the deliverables
 - + Scope of covered inventions
- × Background rights of company
- × Background rights of institution/inventor
 - + Good to have a clear understanding up front

MATERIAL TRANSFER AGREEMENTS

- × MTA's
- × Can have “hidden” clauses obligating assignment to institution
- × These are called “reach through” clauses
- × They can sabotage years of research
 - + Must be reviewed careful to ensure there is no future “lien” on research

INVENTORSHIP

- × Conception is the touchstone of inventorship
- × Reduction to practice does not qualify
- × Different standard than authorship
 - + No real discretion in listing
 - + Decided as a matter of law
- × Decision is made by patent attorney

EVIDENCE OF INVENTORSHIP

- × Lab Notebooks
 - + Policy on keeping accurate books
 - + Sequentially numbered, dated
- × Publications
 - + Only some evidence, not conclusive
- × Research data

UTILITY PATENT

- × Equivalent to a legal monopoly
- × Term is 20 years from date of filing
 - + Used to be 17 years from issuance (pre-1995)
- × Is a form of property
- × Like “metes and bounds” on real property, **claims** define what the government is granting

ANATOMY OF AN APPLICATION

× Specification

- + Background of invention
- + Detailed written description
 - × MUST enable one skilled in the art to practice
- + Drawings

× Claims

- + Independent and dependent
- + Hierarchy of claims
- + The more you add, the more you pay

EXAMPLE OF UTILITY PATENT



AN EXAMPLE OF A "CLAIM":

I claim:
 1. A method of swinging on a swing, the method comprising the steps of:
 a) suspending a seat for supporting a user between only two chains that are hung from a tree branch;
 b) positioning a user on the seat so that the user is facing a direction perpendicular to the tree branch;
 c) having the user pull alternately on one chain to induce movement of the user and the swing toward one side, and then on the other chain to induce movement of the user and the swing toward the other side; and
 d) repeating step c) to create side-to-side swinging motion, relative to the user, that is parallel to the tree branch.

PATENT OFFICE = NON-JUDGMENTAL

- × Don't weed out "garbage"
- × Don't try to judge "value"
- × Don't try to be strategic

PROSECUTION PROCESS

- × USPTO assigns to a Patent Examiner
 - + They have bosses
 - × The bosses have bosses
 - × Can be several levels of review within the "art unit"
- × First response will be an "Office Action"
 - + Will tell you why claims are allowed/rejected

OFFICE ACTIONS

- × Usually 1-3 before the Examiner makes a "final" decision
- × Attorney must file a "Response" to each office action
 - + Must distinguish the prior art
 - + Must explain why it is sufficiently enabled
 - + Usually have to amend (or narrow) the "claims"

“PROVISIONAL” PATENT

- × lasts one year
- × is not examined
- × must “convert” @ 1 year mark
- × same “enablement” requirement
- × Good option for Universities

A PATENT LICENSE AGREEMENT

- × What is being licensed
- × Exclusive or non-exclusive
- × What is the scope of “field” of the license
- × What is the term of the license
- × Who pays for patenting expenses
- × Who is responsible for enforcing

Scope of PASSHE Tech Transfer Guidelines

Angela Smith-Aumen
 Director of Sponsored Programs
 Office of the Chancellor

PASSHE TECH TRANSFER GUIDELINES

× 3 documents:

- × Faculty
- × Non-Faculty Employees
- × Student Academic work

FACULTY INPUT

- × Consulted on early drafts, Feb 2008
- × Written comments (Feb-Sep 08)
- × Presentation to APSCUF, Feb 2008
- × Second draft to APSCUF, Aug 2008
- × Meeting with APSCUF, Nov 2008
- × Revisions from APSCUF, January 2009
- × Pilot Briefing, March 2009

PASSHE TECH TRANSFER GUIDELINES

× Scope: *What is not covered?*



- + Literary, scholarly and artistic works
- + Creations used for instructional purposes
 - × Examples: Publications, textbooks, educational courseware, lectures, recordings, works of art, fiction, poems dramatic works, motion pictures, music

PASSHE TECH TRANSFER GUIDELINES

× Scope: *What is covered?*

× Patentable inventions

- + Novel –
 - × no one has done it before. . . . In the world. . . . Ever
- + Useful –
 - × Must have value to a user
 - × A device, manufacturable article, machine, composition of matter, process or method.
- + Non-obvious –
 - × To one skilled in the art



PASSHE TECH TRANSFER GUIDELINES

× Clarifies “works made for hire”

- + Subject to Copyright law +
- + Commissioned by the University +
- + Written agreement with faculty =
- × Owned by University
 - + e.g.- instructional material, surveys, software
- × Work for hire template will be available



PASSHE TECH TRANSFER GUIDELINES

What INVENTIONS do faculty own?

- × Made on “own time” (includes sabbatical) without use of “University facilities”.
- × Made with <\$40,000 of University resources, support, facilities (including University-administered sponsor funds.)
 - + – CBA Art. 39.C.4.a. and b.

PASSHE TECH TRANSFER GUIDELINES

What INVENTIONS will the university own?

- × Voluntary faculty assignments:
 - + Cost/benefit decision
- × Required assignment:
 - + Federally funded research
 - + Substantial Use (\$40,000 or more)
 - + Other negotiated sponsored research
 - + Non-faculty employees or students
 - + Work-for-hire

PASSHE TECH TRANSFER GUIDELINES

Why does the University want ownership?

- × Bayh-Dole compliance:
 - × Notifications & Reports
- × PSRF TLO evaluation & marketing:
 - × Screening process
 - × Informed financial decisions
- × Monitor licensee payments

PASSHE TECH TRANSFER GUIDELINES

What is the effect of assigning my invention to the University?

- × Assignment = transfer of title.
- × Inventor retains rights to revenues: royalties and fees. (CBA Art. 39.D.1. and Bayh-Dole)
- × University send to PSRF for evaluation & marketing.
- × U. pays marketing and patent costs.

PASSHE TECH TRANSFER GUIDELINES

Support	Ownership	Net Income distribution
"Own time"; no Univ. support	Faculty 100%	Voluntary assignment → Inventor 60%, University 40%
NO Federal \$ & NO Substantial Use	Faculty 100%	Voluntary assignment → Inventor 60%, University 40%
Substantial Use > \$40k	University elects 100%	Inventors 60%, University 40% until Subst. Use repaid then: Inventors 70%, University 30%
Federal \$ > \$40k	University elects 100%	Inventors 60%, University 40% until Subst. Use repaid then: Inventors 70%, University 30%
Federal \$ < \$40k	University elects 100%	Inventor 60%, University 40%

PASSHE TECH TRANSFER GUIDELINES

What if the University does nothing with my invention?

- + Releases it to the Inventor, with sponsor approval.
- + University release is critical to individual marketing efforts:
 - × Licensees want to know.



WHY DEVELOP SERVICES? A REALITY

- × 2007 - Invention – no disclosure
- × 2009 - US agency wants patent
- × What can the University do?

Penn State Research Foundation (PSRF) Services

Ronald J. Huss
Penn State Research Foundation

Management of Intellectual Property

Objectives

- × License University technologies to companies with interest, ability and resources to commercialize them such that public benefits
- × Capture fair portion of value of inventions for benefit of inventors and Universities

What is Technology Transfer?

The process of transferring one party's rights in an intellectual property to another party to promote commercialization of the technology.



Management of Intellectual Property

Process

1. Inventors submit an invention disclosure to University/PASSHE
2. PASSHE forwards invention disclosure to Penn State Intellectual Property Office
3. Technology Licensing Officer (TLO) is assigned to manage invention

Management of Intellectual Property

4. TLO assesses invention
 - Confirms ownership
 - State of development/reduction to practice
 - Availability of resources (personnel, funding, facilities & equipment) to continue development if necessary
 - Is invention marketable?
 - Estimate market size
 - Can invention be protected by patent or copyright?
 - Status of any enabling public disclosures

Management of Intellectual Property

5. TLO addresses any outstanding issues
 - Inventorship vs. authorship vs. ownership
 - Public disclosures – impact on patentability
 - Prior art – impact on patentability
 - Inventors' expectations
 - Inventors' participation



Management of Intellectual Property

6. TLO formulates/IPO implements appropriate patent strategy
 - File provisional patent application
 - Market invention to potential licensees
 - Penn State Patent Review Committee and PASSHE representative(s) review unlicensed inventions
 - Decide whether or not to convert provisional to "full" U.S. patent application and/or PCT

Management of Intellectual Property

7. TLO markets invention to potential licensees with input and assistance from inventors
 - Inventors' recommendations and contacts
 - Information from databases and Internet
 - Focused/directed informational mailings
 - Postings on web sites
 - Contacts at technical meetings
 - Press releases, newspaper articles, and other publicity – reviewed & approved by University Communications Office (through PASSHE SPOC)

Management of Intellectual Property

8. TLO negotiates agreements with potential licensees in consultation with PASSHE and University

- Confidential Disclosure Agreement
- Material Transfer Agreement
- Option Agreement
- License Agreement
 - Exclusive or non-exclusive
 - Field of use
 - Fees, royalties, equity

University have final approval for all agreements
University executes approved agreements

Management of Intellectual Property

9. IPO continues to monitor License Agreement

- Payment of fees, royalties, equity
- Reimbursement of patent expenses
- Monitor due diligence requirements
- Seeks licensee's input regarding patenting decisions



Penn State Data

- \$717M Research Expenditures FY2007-2008
- ~ 150 invention disclosures filed per year
- 94 provisional patent applications filed CY2007
- 73 U.S. patent applications filed CY2007
- 34 U.S. patents issued CY2007



Roles of University Officers

Angela Smith-Aumen

ACKNOWLEDGMENT

- × Sponsored Research: Acknowledge possibility on research grant/contract routing forms – SRO.
- × Other Research: Inform dean/director of possibility.

DISCLOSURES

- × Invention Disclosure form filed with:
 - + Dean/Director to
 - + “University Authorized Official” to
 - + PASSHE staff to
 - + PSRF

SR SPONSORED RESEARCH ADMIN

- ✘ Ensure grant/contract approval routing forms contain language re invention disclosures.
- ✘ Ensure faculty sign an Intellectual Property Agreement, *when required*, prior to submission but never later than award acceptance.

AUTHORIZED UNIVERSITY OFFICIAL

- ✘ Key decision maker
 - + Commits University resources (patent costs)
 - + Ensure University community is well informed
 - + Ensures Guidelines are implemented

Keystone Innovation Grant

Mary Frances Postupack
VP, Economic Development and Research
Support
East Stroudsburg University

Overview

Keystone Innovation Grant

- ✘ **\$191,539** to establish a **PASSHE Technology Transfer and Commercialization Resource Network** for faculty, students and staff at all 14 Universities.
- ✘ Network will provide training, professional resources and systematic procedures to facilitate invention disclosure and marketing and to raise awareness of commercialization opportunities.

PASSHE KIG BUDGET

✘ PASSHE TRAVEL	\$ 9,577
✘ CONSULTANT	\$22,985
✘ OUTSIDE LEGAL CONSULTATION	\$10,535
✘ UNIVERSITY TRAINING COSTS	\$46,926
✘ DEVELOPMENT OF ON-LINE TECHNOLOGY TRANSFER TUTORIAL	\$19,154
✘ ULC ATTORNEY TRAINING	\$ 3,352
✘ PROOF OF CONCEPT	\$50,279
✘ PSRF SERVICE FEES	\$19,154
✘ ADMINISTRATION	\$ 9,577
✘ TOTAL	\$191,539

AUTM "Essentials" Course


Association of University Technology Managers

- ✘ KIG \$3,350 per University for registration, hotel, travel, etc. to attend course
- ✘ Intellectual Property Primer, Bayh-Dole, Agreements, Industry-University Relationships
- ✘ Atlanta, Georgia - October 7-9, 2009
- ✘ AUTM Member Registration \$600 (PASSHE member)
- ✘ <http://www.autm.net>




PROOF OF CONCEPT/PROTOTYPING

- ✦ KIG Supports \$7500 for 7 faculty – 1 semester release (25% for one course)
- ✦ **Dr. Jane Doe, PASSHE U.** - Northeast Wildlife DNA Laboratory researching an antigen-based diagnostic prototype for rapid screening of deer and black bear blood for use in wildlife forensic cases. AnimalRapid DEBE (ARDEBE)



PROOF OF CONCEPT/PROTOTYPING

- ✦ **Dr. Ann Smith, PASSHE U** - researching additives to bovine semen that may improve conception rates in artificial insemination, of significant commercial interest in the livestock industry.



WEB-SITE DEVELOPMENT

- ✦ ON-LINE Technology Transfer Tutorial developed for faculty, staff and students
- ✦ **Technology Transfer and Commercialization Network**

Faculty Resources

Angela Smith-Aumen

FACULTY RESOURCES

- ✦ Briefing today
 - + First in series
 - + Recorded on MediaSite
 - + Available at www.passhe.edu
- ✦ On campus workshops
 - + Beginning in Fall 2009 at University request



FACULTY RESOURCES

- ✦ On-line resources:
 - + Overview:
 - ✦ How to? Where to start?
 - + Frequently Asked Questions
 - + Link to detailed Guidelines and forms
 - + Designated University Officials






Student Intellectual Property Overview

Angela Smith-Aumen

STUDENT INTELLECTUAL PROPERTY

× Academic Work:

+ *Students own*

- × Coursework/lab-work 
- × Thesis 
- × Dissertation 



- + "... inventions, discoveries, creations and new technologies conceived or first reduced to practice by a studentas a work product (including homework assignments, laboratory experiments, special and independent study projects) of a **"for credit"** course."

STUDENT INTELLECTUAL PROPERTY

× *When is a student an Inventor?*

- + Must conceive or contribute to the conception
- + Improvements, modifications = co-inventor
- + Contributions documented in lab notebook
- + More than carrying out instructions
- + More than assisting
- + Authorship is not inventorship

STUDENT INTELLECTUAL PROPERTY

× *Exceptions* to student ownership:

- + Employee or receiving compensation – University will own patentable inventions –
 - × Grad Assistants, work-study, work-for-hire, etc.,
 - × Receive compensation, or something of value, AND
 - × In a position to "make, conceive or reduce to practice inventions or otherwise develop technology."
- + its *not academic work!*
- × **"Intellectual Property Agreement"** (App.F)
 - + Dept chair or director collects

STUDENT INTELLECTUAL PROPERTY

× *Exceptions* to student ownership:

- + Collaboration (w/ faculty) "*beyond the standard*"
- + Material support (of University) "*beyond the standard*", incl. academic work
- + Third-party class assignments: "Special Situations"



STUDENT INTELLECTUAL PROPERTY

× *Beyond the Standard*

- + Student IP Form 1
- + collected by "advisor" at the outset
- + evolves, collect when need is apparent

× *Why?*

- + Using a level of resources not normally available
- + Can apply to thesis or dissertation-
 - × option to change topic

STUDENT INTELLECTUAL PROPERTY

- × *What is "Beyond the Standard"?*
- × Compare to typical level of support/ collaboration provided
 - + to all students in same department
 - + noticeable departure from the norm
- × *Who decides "Beyond the Standard"?*
- × Judgment of division head, affirmed by dean.

STUDENT INTELLECTUAL PROPERTY

Third-party class assignments:
"Special Situations"

- × *if* required to assign IP --
 - + Student IP Form 1 or 2, instructor collects
 - + Offer Alternate class assignment of equal credit

STUDENT INTELLECTUAL PROPERTY

- × Roadmap:

PASSHE Tech Transfer - Student processes

February 27, 2009

Situation 1. and 2.

1. Student receives Material Support from the University, including material support for work for academic credit.

2. Student receives Faculty Collaboration Beyond the Standard.

SEQUENTIAL STEPS:

1. Student receives approval or finalizes arrangements with academic department or faculty for Material support or Faculty Collaboration beyond the standard. (See definitions)
2. Approving authority (i.e. the department chair or director, faculty advisor) provides student with the "Student Intellectual Property, Technology Transfer & Commercialization Guide for PASSHE

STUDENT INTELLECTUAL PROPERTY

Co-inventorship student and faculty –

- + Example: need ≠ conception


- × Declare share of inventorship (contribution to conception) on Disclosure.
 - × Faculty follows faculty guide
 - × Student follows student guide

STUDENT INTELLECTUAL PROPERTY

Co-inventorship student and faculty:

- × Possible scenario:
 - + Student must assign to the University;
 - + Faculty allowed to retain ownership.
- × Options to simplify:
 - + University could release to student; or
 - + Faculty could voluntarily assign to University.
- × University cannot send to PSRF without both assigning ownership.

NEXT STEPS

- × Final versions of the Guidelines – March 26 2009
- × Develop Web resources.
- × Distribute to all faculty. 
- × Regular communication with University officials.
- × Review and update Guidelines within **two** years.

COMMITTEE MEMBERS

- ✘ Jan Edwards - Millersville University
- ✘ Jeffrey Hawkins, Esq. - PASSHE
- ✘ Thomas Krapsho – PASSHE
- ✘ James Moran – PASSHE
- ✘ Michael Mottola - PASSHE
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- ✘ Angela Smith-Aumen – PASSHE
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- ✘ Donald Woodhouse – Lock Haven University
- ✘ Former:
 - + James Matta – Bloomsburg University
 - + Wayne Melnick, Esq. – PASSHE

Q&A session

- ✘ Keep your microphones muted.
- ✘ We will call on each site individually.
- ✘ Un-mute mikes to ask question.
- ✘ Please ask a question one time only.
- ✘ Email: asmith-aumen@passhe.edu

