

Application for Federal Assistance SF-424 *P116 B08-0026* Version 02

* 1. Type of Submission: <input type="radio"/> Preapplication <input checked="" type="radio"/> Application <input type="radio"/> Changed/Corrected Application	* 2. Type of Application: * If Revision, select appropriate letter(s): <input checked="" type="radio"/> New <input type="radio"/> Continuation <input type="radio"/> Revision	<input type="text"/> * Other (Specify) <input type="text"/>
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* 3. Date Received: <input type="text" value="05/02/2008"/>	4. Applicant Identifier: <input type="text"/>
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5a. Federal Entity Identifier: <input type="text"/>	* 5b. Federal Award Identifier: <input type="text"/>
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State Use Only:

6. Date Received by State: <input type="text"/>	7. State Application Identifier: <input type="text"/>
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8. APPLICANT INFORMATION:

* a. Legal Name: <input type="text" value="University of Maryland University College"/>	
* b. Employer/Taxpayer Identification Number (EIN/TIN): <input type="text" value="52-6002033"/>	* c. Organizational DUNS: <input type="text" value="195877790"/>

d. Address:

* Street1: <input type="text" value="3501 University Boulevard East"/>
Street2: <input type="text"/>
* City: <input type="text" value="Adelphi"/>
County: <input type="text"/>
* State: <input type="text" value="MD: Maryland"/>
Province: <input type="text"/>
* Country: <input type="text" value="USA: UNITED STATES"/>
* Zip / Postal Code: <input type="text" value="20783"/>

e. Organizational Unit:

Department Name: <input type="text"/>	Division Name: <input type="text"/>
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f. Name and contact information of person to be contacted on matters involving this application:

Prefix: <input type="text"/>	* First Name: <input type="text" value="Pamela"/>
Middle Name: <input type="text"/>	
* Last Name: <input type="text" value="Dello-Russo"/>	
Suffix: <input type="text"/>	
Title: <input type="text" value="Director, Grants Development and Compliance"/>	
Organizational Affiliation: <input type="text"/>	
* Telephone Number: <input type="text" value="240-582-2769"/>	Fax Number: <input type="text"/>
* Email: <input type="text" value="pdello-russo@umuc.edu"/>	

Application for Federal Assistance SF-424

Version 02

9. Type of Applicant 1: Select Applicant Type:

H: Public/State Controlled Institution of Higher Education

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

\* Other (specify):

\* 10. Name of Federal Agency:

U.S. Department of Education

11. Catalog of Federal Domestic Assistance Number:

84.116

CFDA Title:

Fund for the Improvement of Postsecondary Education

\* 12. Funding Opportunity Number:

ED-GRANTS-032108-001

\* Title:

Fund for the Improvement of Postsecondary Education Comprehensive Program CFDA 84.116B

13. Competition Identification Number:

84-116B2008-2

Title:

14. Areas Affected by Project (Cities, Counties, States, etc.):

\* 15. Descriptive Title of Applicant's Project:

A Web-based Mentoring Program Creating Industry-Academe Synergy

Attach supporting documents as specified in agency instructions.

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16. Congressional Districts Of:

\* a. Applicant

\* b. Program/Project

Attach an additional list of Program/Project Congressional Districts if needed.

17. Proposed Project:

\* a. Start Date:

\* b. End Date:

18. Estimated Funding (\$):

\* a. Federal

\* b. Applicant

\* c. State

\* d. Local

\* e. Other

\* f. Program Income

\* g. TOTAL

\* 19. Is Application Subject to Review By State Under Executive Order 12372 Process?

a. This application was made available to the State under the Executive Order 12372 Process for review on

b. Program is subject to E.O. 12372 but has not been selected by the State for review.

c. Program is not covered by E.O. 12372.

\* 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes", provide explanation.)

Yes  No

21. \*By signing this application, I certify (1) to the statements contained in the list of certifications\*\* and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances\*\* and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 218, Section 1001)

\*\* I AGREE

\*\* The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

Authorized Representative:

Prefix:

\* First Name:

Middle Name:

\* Last Name:

Suffix:

\* Title:

\* Telephone Number:  Fax Number:

\* Email:

\* Signature of Authorized Representative:  \* Date Signed:

**Application for Federal Assistance SF-424**

**Version 02**

**\* Applicant Federal Debt Delinquency Explanation**

The following field should contain an explanation if the Applicant organization is delinquent on any Federal Debt. Maximum number of characters that can be entered is 4,000. Try and avoid extra spaces and carriage returns to maximize the availability of space.

## Attachments

AdditionalCongressionalDistricts

File Name

Mime Type

AdditionalProjectTitle

File Name

Mime Type



**U.S. DEPARTMENT OF EDUCATION**

**BUDGET INFORMATION**

**NON-CONSTRUCTION PROGRAMS**

OMB Control Number: 1890-0004

Expiration Date: 06/30/2005

Name of Institution/Organization:  
University of Maryland Universit...

Applicants requesting funding for only one year should complete the column under "Project Year 1." Applicants requesting funding for multi-year grants should complete all applicable columns. Please read all instructions before completing form.

**SECTION A - BUDGET SUMMARY**

**U.S. DEPARTMENT OF EDUCATION FUNDS**

Budget Categories	Project Year 1(a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Project Year 5 (e)	Total (f)
1. Personnel	\$ 84,032	\$ 87,393	\$ 56,464	\$ 57,572	\$ 0	\$ 285,461
2. Fringe Benefits	\$ 22,268	\$ 23,159	\$ 14,963	\$ 15,257	\$ 0	\$ 75,647
3. Travel	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 0	\$ 12,000
4. Equipment	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
5. Supplies	\$ 1,500	\$ 1,000	\$ 1,000	\$ 1,000	\$ 0	\$ 4,500
6. Contractual	\$ 21,300	\$ 11,100	\$ 12,700	\$ 20,700	\$ 0	\$ 65,800
7. Construction	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
8. Other	\$ 0	\$ 0	\$ 0	\$ 2,000	\$ 0	\$ 2,000
9. Total Direct Costs (lines 1-8)	\$ 132,100	\$ 125,652	\$ 88,127	\$ 99,529	\$ 0	\$ 445,408
10. Indirect Costs*	\$ 45,377	\$ 47,192	\$ 30,491	\$ 31,089	\$ 0	\$ 154,149
11. Training Stipends	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
12. Total Costs (lines 9-11)	\$ 177,477	\$ 172,844	\$ 118,618	\$ 130,618	\$ 0	\$ 599,557

**\*Indirect Cost Information (To Be Completed by Your Business Office):**

If you are requesting reimbursement for indirect costs on line 10, please answer the following questions:

(1) Do you have an Indirect Cost Rate Agreement approved by the Federal government?  Yes  No

(2) If yes, please provide the following information:

Period Covered by the Indirect Cost Rate Agreement: From: 7/1/2006 To: 6/30/2010 (mm/dd/yyyy)

Approving Federal agency:  ED  Other (please specify): Department of Health and Human Services

(3) For Restricted Rate Programs (check one) -- Are you using a restricted indirect cost rate that:

Is included in your approved Indirect Cost Rate Agreement? or,  Complies with 34 CFR 76.564(c)(2)?



U.S. DEPARTMENT OF EDUCATION

BUDGET INFORMATION

NON-CONSTRUCTION PROGRAMS

OMB Control Number: 1890-0004

Expiration Date: 06/30/2005

Name of Institution/Organization:  
University of Maryland Universit...

Applicants requesting funding for only one year should complete the column under "Project Year 1." Applicants requesting funding for multi-year grants should complete all applicable columns. Please read all instructions before completing form.

SECTION B - BUDGET SUMMARY  
NON-FEDERAL FUNDS

Budget Categories	Project Year 1(a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Project Year 5 (e)	Total (f)
1. Personnel	(b)(4)					
2. Fringe Benefits						
3. Travel						
4. Equipment						
5. Supplies						
6. Contractual						
7. Construction						
8. Other						
9. Total Direct Costs (lines 1-8)						
10. Indirect Costs						
11. Training Stipends						
12. Total Costs (lines 9-11)						

## ASSURANCES - NON-CONSTRUCTION PROGRAMS

OMB Approval No. 4040-0007  
Expiration Date 04/30/2008

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0040), Washington, DC 20503.

**PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.**

**NOTE:** Certain of these assurances may not be applicable to your project or program. If you have questions, please contact the awarding agency. Further, certain Federal awarding agencies may require applicants to certify to additional assurances. If such is the case, you will be notified.

As the duly authorized representative of the applicant, I certify that the applicant:

1. Has the legal authority to apply for Federal assistance and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project cost) to ensure proper planning, management and completion of the project described in this application.
2. Will give the awarding agency, the Comptroller General of the United States and, if appropriate, the State, through any authorized representative, access to and the right to examine all records, books, papers, or documents related to the award; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.
3. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.
4. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.
5. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. §§4728-4763) relating to prescribed standards for merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).
6. Will comply with all Federal statutes relating to nondiscrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. §§1681-1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. §794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U.S.C. §§6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended, relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) §§523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. §§290 dd-3 and 290 ee-3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statute(s) under which application for Federal assistance is being made; and, (j) the requirements of any other nondiscrimination statute(s) which may apply to the application.
7. Will comply, or has already complied, with the requirements of Titles II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal or federally-assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.
8. Will comply, as applicable, with provisions of the Hatch Act (5 U.S.C. §§1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.

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Prescribed by OMB Circular A-102

9. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. §§276a to 276a-7), the Copeland Act (40 U.S.C. §276c and 18 U.S.C. §874), and the Contract Work Hours and Safety Standards Act (40 U.S.C. §§327- 333), regarding labor standards for federally-assisted construction subagreements.
10. Will comply, if applicable, with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is \$10,000 or more.
11. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. §§1451 et seq.); (f) conformity of Federal actions to State (Clean Air) Implementation Plans under Section 176(c) of the Clean Air Act of 1955, as amended (42 U.S.C. §§7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended (P.L. 93-523); and, (h) protection of endangered species under the Endangered Species Act of 1973, as amended (P.L. 93- 205).
12. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.
13. Will assist the awarding agency in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. §470), EO 11593 (Identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. §§469a-1 et seq.).
14. Will comply with P.L. 93-348 regarding the protection of human subjects involved in research, development, and related activities supported by this award of assistance.
15. Will comply with the Laboratory Animal Welfare Act of 1966 (P.L. 89-544, as amended, 7 U.S.C. §§2131 et seq.) pertaining to the care, handling, and treatment of warm blooded animals held for research, teaching, or other activities supported by this award of assistance.
16. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§4801 et seq.) which prohibits the use of lead-based paint in construction or rehabilitation of residence structures.
17. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and OMB Circular No. A-133, "Audits of States, Local Governments, and Non-Profit Organizations."
18. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations, and policies governing this program.

<p>* SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL Pamela Dello-Russo</p>	<p>* TITLE Director, Grants Development and Compliance</p>
<p>* APPLICANT ORGANIZATION University of Maryland University College</p>	<p>* DATE SUBMITTED 05-02-2008</p>

Standard Form 424B (Rev. 7-97) Back

## DISCLOSURE OF LOBBYING ACTIVITIES

Complete this form to disclose lobbying activities pursuant to 31 U.S.C. 1352  
(See reverse for public burden disclosure.)

Approved by OMB

0348-0046

<p>1. * Type of Federal Action:</p> <p><input type="checkbox"/> a. contract</p> <p><input checked="" type="checkbox"/> b. grant</p> <p><input type="checkbox"/> c. cooperative agreement</p> <p><input type="checkbox"/> d. loan</p> <p><input type="checkbox"/> e. loan guarantee</p> <p><input type="checkbox"/> f. loan insurance</p>	<p>2. * Status of Federal Action:</p> <p><input type="checkbox"/> a. bid/offer/application</p> <p><input checked="" type="checkbox"/> b. initial award</p> <p><input type="checkbox"/> c. post-award</p>	<p>3. * Report Type:</p> <p><input checked="" type="checkbox"/> a. initial filing</p> <p><input type="checkbox"/> b. material change</p> <p>For Material Change Only:</p> <p>year                      quarter</p> <p>date of last report</p>
<p>4. Name and Address of Reporting Entity:</p> <p><input checked="" type="checkbox"/> Prime    <input type="checkbox"/> SubAwardee    Tier if known:</p> <p>* Name: N/A</p> <p>* Address: N/A</p> <p>N/A</p> <p>Congressional District, if known:</p>		<p>5. If Reporting Entity in No.4 is Subawardee, Enter Name and Address of Prime:</p>
<p>6. * Federal Department/Agency:</p> <p>N/A</p>	<p>7. * Federal Program Name/Description: Fund for the Improvement of Postsecondary Education</p> <p>CFDA Number, if applicable: 84.116</p>	
<p>8. Federal Action Number, if known:</p>	<p>9. Award Amount, if known:</p>	
<p>10. a. Name and Address of Lobbying Registrant (if individual, complete name):</p> <p>* Name: N/A</p> <p>N/A</p> <p>* Address:</p>	<p>b. Individual Performing Services (including address if different from No. 10a):</p> <p>* Name: N/A</p> <p>N/A</p>	
<p>11. Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when the transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to the Congress semi-annually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.</p>		<p>* Signature: Pamela Dello-Russo</p> <p>* Name: Pamela</p> <p>Dello-Russo</p> <p>Title:</p> <p>Telephone No.:</p> <p>Date: 05-02-2008</p>
<p>Federal Use Only:</p>		<p style="text-align: right;">Authorized for Local Reproduction Standard Form - LLL (Rev. 7-97)</p>

**Public Burden Disclosure Statement**

According to the Paperwork Reduction Act, as amended, no persons are required to respond to a collection of information unless it displays a valid OMB Control Number. The valid OMB control number for this information collection is OMB No. 0348-0046. Public reporting burden for this collection of information is estimated to average 10 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0046), Washington, DC 20503.

## NOTICE TO ALL APPLICANTS

The purpose of this enclosure is to inform you about a new provision in the Department of Education's General Education Provisions Act (GEPA) that applies to applicants for new grant awards under Department programs. This provision is Section 427 of GEPA, enacted as part of the Improving America's Schools Act of 1994 (Public Law (P.L.) 103-382).

### To Whom Does This Provision Apply?

Section 427 of GEPA affects applicants for new grant awards under this program. **ALL APPLICANTS FOR NEW AWARDS MUST INCLUDE INFORMATION IN THEIR APPLICATIONS TO ADDRESS THIS NEW PROVISION IN ORDER TO RECEIVE FUNDING UNDER THIS PROGRAM.**

(If this program is a State-formula grant program, a State needs to provide this description only for projects or activities that it carries out with funds reserved for State-level uses. In addition, local school districts or other eligible applicants that apply to the State for funding need to provide this description in their applications to the State for funding. The State would be responsible for ensuring that the school district or other local entity has submitted a sufficient section 427 statement as described below.)

### What Does This Provision Require

Section 427 requires each applicant for funds (other than an individual person) to include in its application a description of the steps the applicant proposes to take to ensure equitable access to, and participation in, its Federally-assisted program for students, teachers, and other program beneficiaries with special needs. This provision allows applicants discretion in developing the required description. The statute highlights six types of barriers that can impede equitable access or participation: gender, race, national origin, color, disability, or age. Based on local circumstances, you should determine whether these or other barriers may prevent your students, teachers, etc. from such access or participation in, the Federally-funded project or activity. The description in your application of steps to be taken to overcome these barriers need not be lengthy; you may provide a clear and succinct

description of how you plan to address those barriers that are applicable to your circumstances. In addition, the information may be provided in a single narrative, or, if appropriate, may be discussed in connection with related topics in the application.

Section 427 is not intended to duplicate the requirements of civil rights statutes, but rather to ensure that, in designing their projects, applicants for Federal funds address equity concerns that may affect the ability of certain potential beneficiaries to fully participate in the project and to achieve to high standards. Consistent with program requirements and its approved application, an applicant may use the Federal funds awarded to it to eliminate barriers it identifies.

### What are Examples of How an Applicant Might Satisfy the Requirement of This Provision?

The following examples may help illustrate how an applicant may comply with Section 427.

(1) An applicant that proposes to carry out an adult literacy project serving, among others, adults with limited English proficiency, might describe in its application how it intends to distribute a brochure about the proposed project to such potential participants in their native language.

(2) An applicant that proposes to develop instructional materials for classroom use might describe how it will make the materials available on audio tape or in braille for students who are blind.

(3) An applicant that proposes to carry out a model science program for secondary students and is concerned that girls may be less likely than boys to enroll in the course, might indicate how it intends to conduct "outreach" efforts to girls, to encourage their enrollment.

We recognize that many applicants may already be implementing effective steps to ensure equity of access and participation in their grant programs, and we appreciate your cooperation in responding to the requirements of this provision.

### Estimated Burden Statement for GEPA Requirements

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless such collection displays a valid OMB control number. The valid OMB control number for this information collection is 1890-0007. The time required to complete this information collection is estimated to average 1.5 hours per response, including the time to review instructions, search existing data resources, gather the data needed, and complete and review the information collection. If you have any comments concerning the accuracy of the time estimate(s) or suggestions for improving this form, please write to: Director, Grants Policy and Oversight Staff, U.S. Department of Education, 400 Maryland Avenue, SW (Room 3652, GSA Regional Office Building No. 3), Washington, DC 20202-4248.

## Attachment Information

File Name

Mime Type

2975-GEPA.doc

application/msword

## **Compliance with General Education Provision Act (GEPA)**

**The University of Maryland University College (UMUC) has implicit and explicit processes and procedures to ensure equal access and treatment of project participants who are groups that have been underrepresented, based on race, color, national origin, gender, age or disability. Compliance with GEPA appears in the program narrative.**

**Some of the specific processes and procedures include:**

- All the prospective project participants (students, university staff, and industry partners) will have access to outreach materials, training supplements, etc. UMUC will make specific outreach efforts that target underrepresented populations for this project.**
- All UMUC materials are available in alternative formats for special needs populations.**
- UMUC will provide technical expertise to ensure special needs and diverse populations are addressed throughout implementation.**
- The curriculum and instructional materials will be evaluated based on diversity and underrepresented populations.**

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## CERTIFICATION REGARDING LOBBYING

### Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

### Statement for Loan Guarantees and Loan Insurance

The undersigned states, to the best of his or her knowledge and belief, that:

If any funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this commitment providing for the United States to insure or guarantee a loan, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions. Submission of this statement is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required statement shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

<b>* APPLICANT'S ORGANIZATION</b> University of Maryland University College	
<b>* PRINTED NAME AND TITLE OF AUTHORIZED REPRESENTATIVE</b> Prefix:      * First Name: Pamela      Middle Name: * Last Name: Dello-Russo      Suffix:      * Title: Director, Grants Development and Compliance	
<b>* SIGNATURE: Pamela Dello-Russo</b>	<b>* DATE: 05/02/2008</b>

# SUPPLEMENTAL INFORMATION REQUIRED FOR DEPARTMENT OF EDUCATION GRANTS

## 1. Project Director

\* Name:

Rana

Khan

PhD

\* Address:

3501 University Boulevard East

Adelphi

MD: Maryland

20783

USA: UNITED STATES

\* Phone Number:

301-985-7679

Fax Number:

Email:

rkhan@umuc.edu

## 2. Applicant Experience:

Yes  No  Not applicable to this program

## 3. Human Subjects Research

Are any research activities involving human subjects planned at any time during the proposed project Period?

Yes  No

Are ALL the research activities proposed designated to be exempt from the regulations?

Yes Provide Exemption(s) #:

No Provide Assurance #, if available:

Please attach an explanation Narrative:

FileName

MimeType

# **Project Narrative**

## **Abstract Narrative**

### **Attachment 1:**

**Title: Pages: Uploaded File: 228-FIPSE-Abstract.doc**

## **Project Abstract**

In response to FIPSE's comprehensive program **Invitational Priority 2**, University of Maryland University College (UMUC) proposes to enhance the Professional Science Master's (PSM) programs by developing an industry guided Web-based professional development plan that is integrated throughout the program.

To better align the workforce needs with/to the skills of graduating students, a new type of industry-academia relationship is required. In this project UMUC will design, develop, test, implement and disseminate a collaborative model that utilizes industry mentors. Typically, mentoring programs offer guidance by academics, mostly in a face-to-face format at the undergraduate level, and occur towards the end of the degree. In this project industry mentors and mentees will use online tools, including an electronic Industry Guided Professional Action Plan (E-PAP) tool, from the time students begin the program until they graduate, with assistance provided by graduates of the program.

The E-PAP tool and other materials developed and used for this project will be available online for easy access to students, mentors, assistants and administrators as well as for replication at other institutions. Evaluation will be ongoing and dissemination will occur during the later stages of the project.

This collaborative model with industry will result in students being better prepared for the job market, a higher retention rate, and a higher level of student satisfaction. Institutions will have a curriculum that aligns to industry needs and will provide students with real-world professional experience. In addition, industry will play an active role in shaping student's workforce skills, which will lead to an increased pool of potential professionals for future employment and increased competitiveness for the companies.

# **Project Narrative**

## **Project Narrative**

### **Attachment 1:**

**Title: Pages: Uploaded File: 6791-Mandatory\_FIPSE\_Narrative.doc**

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## **Need and Magnitude of Problem**

**“Higher education and the business community must work together regionally to prepare the workforce for the jobs of the future” - a panel of college and business leaders to Sen. Mike Enzi (R-WY) on March 4, 2004**

**One of the key workforce issues as identified by the Department of Labor, Employment and Training Administration is educators’ and job seekers’ limited understanding of industry needs. This issue is magnified by the growing national employment in scientific and technical areas, which according to U.S. Bureau of Labor Statistics (BLS), is expected to grow by 17 % between 2006 and 2016.**

**As a new degree, the Professional Science Master’s (PSM) represents one response to the growing need for graduates in the fields of science, technology, engineering and mathematics (STEM). Results from a pilot survey conducted by the Council of Graduate Schools (CGS) in 2006 revealed that the PSM model is fulfilling its mission to prepare graduate-level scientists to enter the workforce. On January 28, 2008, the Washington Post, under the heading *Area Schools Heed Science Industry’s Warning*, reported “the PSM degree is being hailed as one of the most promising innovation in graduate education in years”. In the September/October 2007 issue of ACS’s in Chemistry, Carol B. Lynch and Eleanor L. Babco reported that “the powerful combination of science and professional skills is highly valued by employers, and helps PSM graduates find careers in business, government, and non-profit organizations”. Currently, there are over 120 PSM programs across 63 institutions nationwide that have graduated 1200 students.**

**Although PSM programs are unique in their design in addressing many of the workforce needs and preparing students with skills desired by employers, Beryl Benderly reported in the article *Mastering the Job Market* (Science, March 7, 2008) that “many employers are still unfamiliar with the concept of PSM”. This underscores a need for a strategy that will increase the awareness about PSM programs in the industry.**

University of Maryland University College (UMUC) acknowledges the necessity for a close partnership with industry and government as evident from one of its strategy statements “Ensure that our academic programs and services are responsive to a changing workforce and a changing world”. With online enrollments reaching 177,000, UMUC is the world’s largest online-enabled state university and the only university with online PSM programs in Biotechnology and Environmental Management. UMUC is also diverse in providing access to underrepresented populations to its PSM programs. In the academic year 2005-06, African American, Asian and Hispanic minority groups comprised around 41% of the total students in the program, and women students constituted over 50% of the student population.

Although UMUC is ahead of many other institutions in recruiting and providing access to diverse students in undergraduate and graduate study, including the PSM degree programs, it is nonetheless challenged by the need to provide supportive and innovative programs to retain all students. Although this challenge applies to all academic settings, students in online programs, most of whom are working professionals and adults, are especially at risk for attrition or disengagement because professional and community building opportunities are limited and conflict with other priorities in their life. Active involvement of the industry in a program will assist in keeping them focused and achieving success.

The need for academic-industry collaborative relationships to enhance student learning and professional development is well-recognized and initiatives are being undertaken nationwide to establish a variety of relationships which may vary in scope, objectives and goals based on the partners. The most common types of collaborative relationships include the presence of industry professionals on departmental advisory boards, product usage where universities receive discounted software from companies such as Oracle and Microsoft to be integrated into the

curriculum (Oka and Prey, 2007), and companies providing real-world capstone projects for students (Christensen and Rundus, 2003). Another type of partnership involves forming an industry-academia consortium (Kumar. A et al, 2002). The consortium is formed by a university and several industry partners, with each industry partner providing a different service or product. In recognition of the need for academic-industry partnerships to enhance student learning and professional development, the National Science Foundation (NSF) has allocated funds for programs that foster industry-academia partnerships. One such example is The Advanced Technological Education Program funded by NSF, which has a component of mentoring in its partnerships.

([http://www2.aacc.nche.edu/atecenter/images/ATE\\_Impact\\_brochureLR.pdf](http://www2.aacc.nche.edu/atecenter/images/ATE_Impact_brochureLR.pdf))

Research indicates that mentoring also has a positive impact on the personal and professional development of students (Levinson, 1978). There is also a growing body of research in higher education that suggests an empirical link between student mentoring and student retention (Campbell & Campbell, 1997; Wallace & Abel, 1997). For instance, Miller, Neuner, and Glynn (1988) used an experimental research design in which students were randomly assigned to either an experimental group which received mentoring, or a control group which did not. It was found that students who received mentoring evinced higher retention rates than non-mentored students with similar pre-enrollment characteristics. However, in the mentoring studies mentoring has been provided by academic personnel.

As of Fall 2007, UMUC offers 14 Master's degree programs. The interaction with industry presently encompasses the capstone course that in most cases entails a "virtual internship". Students in this course complete a project for a company, which not only provides them with practical experience but also professional development, through mentorships by

industry professionals. Evaluation results have revealed that students consider the capstone course of great value. Additionally, even after earning a degree, a student may not have the knowledge and skills desired by an employer. Therefore, a Web-based professional development component, in collaboration with industry partners, integrated throughout the curricula of each program would provide a nurturing and professional development community for the students. Such a component will also motivate the students to complete the program in a timely manner and find suitable career opportunities. Industry will benefit by actively shaping and developing a future employee who is closely suited to the industry needs.

Efforts are underway by one of the PSM programs at UMUC, the Graduate Biotechnology Program, to increase collaboration with industry. The first is through the capstone course, a one semester course which provides students with real-world projects and professional and career development. The second effort is through an annual symposium on career and technology trends that has, for the past 4 years, invited senior company executives to speak on technological changes and workforce needs of the industry. This has provided an opportunity for the students to learn from the industry and has resulted in collaborative relationships with companies. These two efforts have and will support the project by providing mentors and assisting with dissemination.

Our research has revealed that only one e-mentoring program offered by a non-profit organization [www.MentorNet.net](http://www.MentorNet.net), comes close to bridging the gap between the industry and academia while supporting the academic efforts of diverse students. This organization matches women in engineering and related science majors with professionals in industry for year-long, structured mentoring relationships conducted via e-mail.

## **Our Model**

Funding from FIPSE will enable UMUC's PSM programs, which include Biotechnology, Environmental Management, and our future Information Assurance program, to design, develop and disseminate an electronic Industry Guided Professional Action Plan (E-PAP) tool threaded through the curriculum of a PSM degree program. The industry guidance will come through the mentors who will be provided by the project collaborators; MdBio, Women in Bio, and Montgomery County Business Innovation Network. The model's distinct features are as follows:

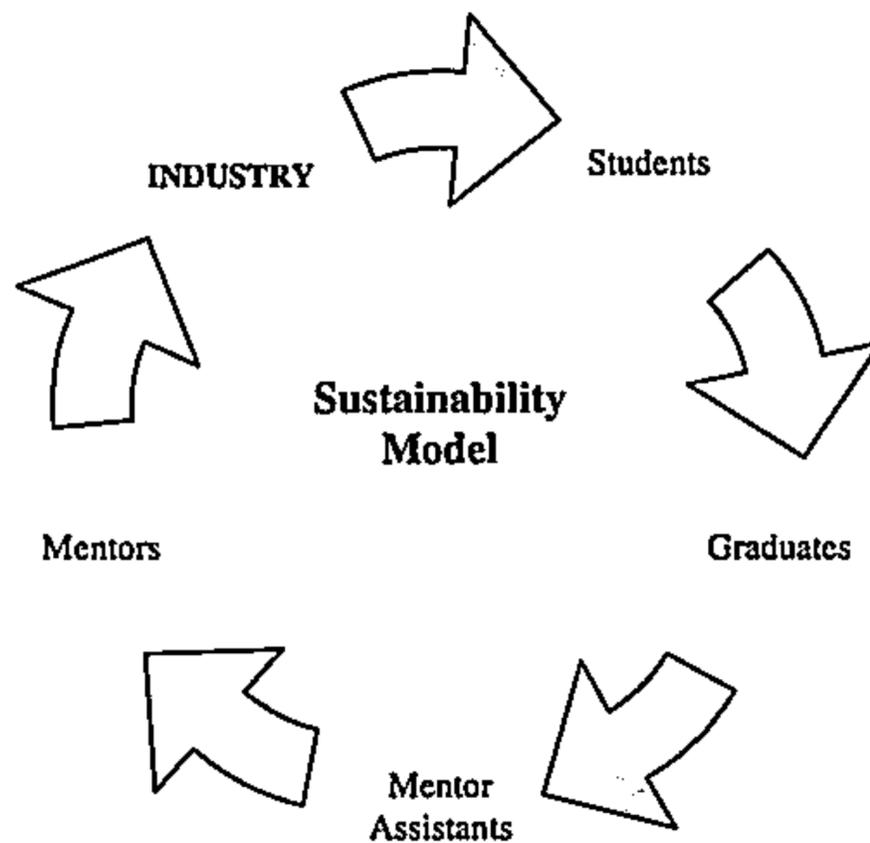
1. Provides industry guidance to the student from the onset of the program
2. Embedded in the program
3. Offered at graduate level
4. Utilizes Web-based technologies that enable easy access and participation, provide flexibility and easier management of resources

Upon entering a PSM program students will be provided an opportunity to reflect upon and document their professional goals and specific actions that they will take to achieve these goals using E-PAP. The E-PAP will be reviewed by industry mentors, who will choose a mentee based on alignment of interest. Each mentor will be assigned to at least 5 mentees as it has been shown that programs where multiple students have the same mentor are as effective as traditional one to one arrangements (Walker & Taub, 2001). This action plan will contain a short biography of the student, short term and long term professional goals and an action plan to achieve each of those goals. Mentors will be assisted by Mentor assistants (MA's) who will be graduates of the program.

The mentors, MA's and students will meet using a web-based product such as Adobe Connect and/or Wimba. At the first meeting the E-PAP that the student has completed will be

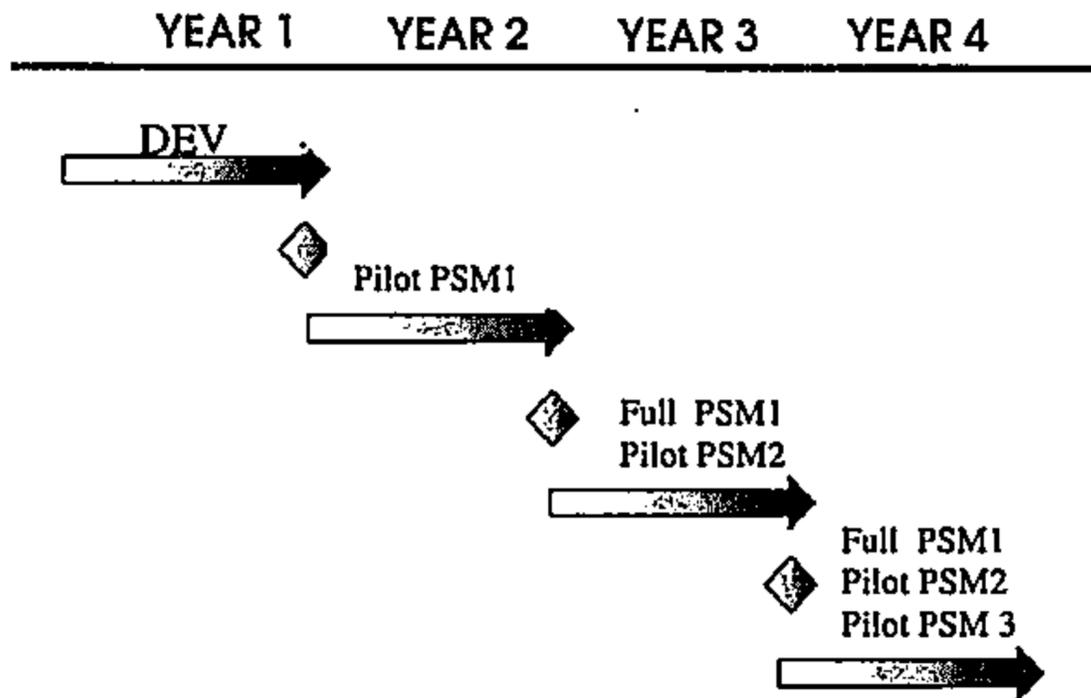
discussed and may undergo revisions as an outcome of the meeting. As a benchmark for the first semester, a short-term goal and its corresponding activities will be identified. At the conclusion of the first semester the student will describe the results of the activities in a short report. An additional meeting will be scheduled with the mentor. This meeting will be used to discuss the report and identify a goal to be used as a benchmark for the next semester and the same process as before will be followed. Throughout the program students and mentors will be able to participate in an online forum. This forum will be utilized to present case studies, promote online discussions, and serve as a question and answer platform.

As depicted in the diagram below the model is self sustaining. Students will start off as mentees, graduate, and may become mentor assistants who in turn may join the industry and the mentor pool, making this a sustainable, community project.



Although the duration of the grant will prevent the model from being tested at other institutions, several iterations within UMUC will demonstrate the replication capacity of the project. The testing phase within UMUC is demonstrated by the following timeline. The first

year is dedicated to development and the following years to pilots and full implementation in PSM programs beginning in Biotechnology and following with Environmental Management and Information Assurance.



### Significance of the Project

Successful completion of this project will provide benefits to all stakeholders, students, companies and universities, at both local and national levels. Students benefit from the professional development support provided by an industry mentor, enriched curriculum and job opportunities. The company benefits from projects that are completed by students, access to shaping students' careers and a source of potential employees. From the perspective of the university it will help align curriculum to business needs, provide real-world projects for the students, and help more students successfully complete a program.

In the current model of PSM programs, the relationship between students and the industry is developed late in the program when the student starts the internship or capstone project. The proposed mentoring model will add value by initiating the relationship building process at the beginning of the program by providing the opportunity for industry to play an active role in the

growth and development of the student. The results of such a model have the potential to redefine the success of higher education. It will address some of the key workforce issues of national significance, such as preparing students to have the skills that align with the workforce needs, retention, and recruitment. The close alliance with the industry and the guidance provided by the mentors will encourage and motivate more underrepresented and minorities students to complete the program and enter the workforce.

On the national level, companies will be more competitive due to the influx of professionals entering the workforce that possess the knowledge and skills desired by industry. The developed and tested E-PAP model will provide a framework for other educational institutions to replicate. The E-PAP tool and the resources for the mentoring program will be released as open shareware for other institutions' use.

### **Quality of Project Design**

The overarching goal of this project is to integrate industry-directed career and professional development activities into Master's level academic curricula at the onset of the program to achieve the following:

- Increased awareness of workforce needs among students
- Identification of student's professional goals
- Improved interaction with industry/government
- Opportunities for students to find the "best fit" jobs upon graduation

The objectives for each of the four years and the proposed milestones are delineated in the table below:

<b>OVERALL GOAL</b>	
Develop, test, implement, evaluate, and disseminate a national model that integrates a comprehensive industry guided web-based professional development plan component into PSM programs.	
<b>YEAR 1</b>	
<b>Objective 1: Develop, design, and evaluate an electronic Professional Action Plan tool (E-PAP)</b>	
	<b>Milestone 1: Meet with Advisory Board and Project Partners to discuss and delineate the requirements for an electronic Professional Action Plan tool (E-PAP)</b> <b>Milestone 2: Design and develop an electronic Professional Action Plan tool (E-PAP) based on requirements and currently existing similar tools</b> <b>Milestone 3: Evaluate the usability of the tool during the development phase and post dry run</b>
<b>Objective 2: Develop, run, and evaluate the training aspect of the industry-guided mentoring program</b>	
	<b>Milestone 1: Hire an external evaluator</b> <b>Milestone 2: Develop training resources</b> <b>Milestone 3: Recruit and train an industry-based mentoring pool in the use of E-PAP</b> <b>Milestone 4: Evaluate the effectiveness of the training material and the training</b>
<b>YEAR 2</b>	
<b>Objective 1: Conduct a pilot study of the web-based, industry-guided E-PAP project in the Biotechnology PSM Program</b>	
	<b>Milestone 1: Recruit pilot participants and Mentors (Create the piloting pool)</b> <b>Milestone 2: Conduct the pilot</b> <b>Milestone 3: Evaluate the effectiveness of the pilot</b> <b>Milestone 4: Discuss results with Advisory Board and Project Partners and recommend revisions</b> <b>Milestone 5: Perform project and program revision based on evaluation data</b>
<b>YEAR 3</b>	
<b>Objective 1: Conduct a full program study of the web-based, industry-guided E-PAP in the Biotechnology PSM Program</b>	
	<b>Milestone 1: Register new students and Mentors (Create the mentoring program participants pool)</b> <b>Milestone 2: Implement the E-PAP mentoring program in the Biotechnology PSM Program</b> <b>Milestone 3: Evaluate the effectiveness of the project</b> <b>Milestone 4: Discuss results with Advisory Board and Project Partners and recommend revisions</b> <b>Milestone 5: Perform project and program revision based on evaluation data</b>
<b>Objective 2: Conduct a pilot study of the web-based, industry-guided E-PAP project in the Environmental Management PSM program</b>	
	<b>Milestone 1: Recruit pilot participants and Mentors (Create the piloting pool)</b> <b>Milestone 2: Conduct the pilot</b> <b>Milestone 3: Evaluate the effectiveness of the pilot</b> <b>Milestone 4: Discuss results with Advisor Board and Project Partners and recommend revisions</b> <b>Milestone 5: Perform project and program revision based on evaluation data</b>
<b>Objective 3: Develop and digitize resources for the model and share them with other PSM programs</b>	
	<b>Milestone 1: Develop training material for online delivery</b> <b>Milestone 2: Build a repository of resources</b> <b>Milestone 3: Develop a website for PSM programs</b> <b>Milestone 4: Present the model and summary of results to other PSM programs</b> <b>Milestone 5: Evaluate responsiveness and quality</b>
<b>YEAR 4</b>	
<b>Objective 1: Continue to create and modify sharable online resources for the implementation of the model</b>	
	<b>Milestone 1: Add more web-based material to the repository of resources</b> <b>Milestone 2: Recruit more Mentor Assistants (MA's)</b> <b>Milestone 3: Transition senior Mentor Assistants to mentor positions</b> <b>Milestone 4: Conduct a pilot study in a new PSM program-Information Assurance</b> <b>Milestone 5: Evaluate the utility and practicality of the resources and data from the expansion of the model</b>

	<b>Objective 2: Organize and attend meetings/symposia to disseminate the model and the resources</b>
	<b>Milestone 1: Attend meetings on Higher Education, Distance learning and Science education to explain the model and its results</b> <b>Milestone 2: Organize meetings to invite and inform other PSM programs about the model and the available resources</b> <b>Milestone 3: Evaluate the attendance, interest and requests from the meetings</b>
	<b>Objective 3: Analyze the data collected from the various studies over the 3 year period</b>
	<b>Milestone 1: Collect student retention and satisfaction data from all programs</b> <b>Milestone 2: Collect career placement/promotion data</b> <b>Milestone 3: Identify other institutions testing the model</b> <b>Milestone 4: Compile and collate data on the evaluation of the model</b>

### **Key Personnel/Management Team**

This project is a collaborative effort leveraging the skills and knowledge of key professionals in the Graduate School of Management and Technology (GSMT) and the Center for Support of Instruction (CSI). Initial industry support is being offered by MdBio, Women in Bio, and Montgomery County Business Innovation Network. The following chart identifies the key UMUC staff and the external evaluator involved in the program. Biosketches and support letters are included in the grant package.

<b>Team Member</b>	<b>Affiliation</b>	<b>Responsibility/Expertise</b>
Rana Khan, PhD	UMUC, GSMT, Associate Professor and Program Director of Biotechnology	Overall project administration and expertise in the field of biotechnology
Robert Beauchamp, PhD	UMUC, GSMT, Collegiate Professor and Program Director of Environmental Management	Provide guidance and assistance in program development and provide expertise in the field of environmental management
Jim Chen, PhD	UMUC, GSMT, Professor and Program Director of Information Assurance	Contribute knowledge and skills in project design and development and provide expertise in the field of information assurance
Yulia Nemchinova, PhD	UMUC, CSI, Senior Instructional Support Specialist	Extensive experience in the development of online academic materials, objects and supporting services. Responsible for the development of the E-PAP tool
Heloisa Siffert, MA	UMUC, CSI, Instructional Support Specialist	Facilitates delivery of quality distance education programs. Provides extensive skills and knowledge in online program development
An Michiels, PhD External Evaluator	Keygene, Rockville, MD	Extensive experience in evaluation and assessment of research collaborations and projects

The following is a detailed timeline illustrating activities, responsibilities, and implementation components over the four year grant period.

**YEAR 1**

Activities	Responsible Person	Month												
		1	2	3	4	5	6	7	8	9	10	11	12	
<b>Project Management</b>														
1. Advisory Board Meeting	R. Khan R. Beauchamp J. Chen	•					•							•
2. Management Team		•		•		•	•	•						
3. Meeting w/ partners to create Industry Mentor pool	R. Khan R. Beauchamp J. Chen	•												
4. Hire evaluator	R. Khan R. Beauchamp J. Chen				•									
<b>Develop and design E-PAP Tool</b>														
1. Requirements			•											
2. Environmental Scan	Y. Nemchinova H. Siffert			•										
3. Customization	Y. Nemchinova H. Siffert				•	•						•	•	
4. Usability Testing	Y. Nemchinova					•								
5. Software enhancement/coding	Software programmer						•	•	•		•			
6. Usability Testing	Y. Nemchinova									•		•		
7. Hosting the tool	Y. Nemchinova													•
8. Dry run for launch	R. Khan Y. Nemchinova H. Siffert J. Chen										•	•		
9. Evaluate E-PAP tool	Ext. evaluator Advisory Board										•	•	•	
<b>Develop Mentoring Program</b>														
1. Identify and Hire MAs	R. Khan									•	•			
2. Develop training material	R. Khan R. Beauchamp J. Chen H. Siffert											•	•	•
3. Develop marketing flyers	R. Khan H. Siffert												•	
4. Identify location	R. Khan													•
5. Training session f2f	R. Khan R. Beauchamp J. Chen H. Siffert													•

Activities	Responsible Person	Month												
		1	2	3	4	5	6	7	8	9	10	11	12	
6. Evaluate training and training material	Ext. Evaluator Advisory Board											•	•	•
<b>YEAR 2</b>														
<b>Project Management</b>														
1. Advisory Board Meeting	R. Khan R. Beauchamp J. Chen	•					•							•
2. Management Team		•		•		•	•	•						
3. Start developing training components for online delivery	H. Siffert							•	•	•	•	•	•	•
4. Bring in more partners and increase mentor pool	Current partners								•	•	•	•		
5. Recruit more MA's	Current partners									•	•	•		
<b>Mini Pilot in Biotechnology PSM program</b>														
1. Sign-up of new students in Mentoring Program	Y. Nemchinova	•												
2. Tutorial for new students on tool and mentoring program	H. Siffert	•												
3. Sign-up of MA's in Mentoring Program	Y. Nemchinova	•												
4. New students complete E-PAP and submit	MA's		•											
5. Mentors review E-PAP	R. Khan		•											
6. Web-based meeting between new students/mentors/MA's to discuss E-PAP (1 mentor/5 students)	R. Khan		•											
7. Follow-up meetings between students/MAs	R. Khan		•	•	•	•								
8. Web-based Q&A forum w/ mentors	R. Khan			•	•									
9. Completion of E-PAP report	MA's						•							
10. Revision of E-PAP by students	MA's						•							
11. Evaluation of the minipilot: Meeting with partners to assess model and make changes								•	•	•	•	•	•	•

Activities	Responsible Person	Month												
		1	2	3	4	5	6	7	8	9	10	11	12	
<b>YEAR 3</b>														
<b>Project Management</b>														
1. Advisory Board Meeting	R. Khan R. Beauchamp J. Chen	•					•							•
2. Management Team		•		•		•	•	•						
3. Move some of the MA's to mentor roles	Y. Nemchinova									•	•	•	•	
<b>Full implementation in Biotechnology PSM program</b>														
1. Sign-up of new students in Mentoring Program	Y. Nemchinova	•				•				•				
2. Tutorial for new students on tool and mentoring program	H. Siffert	•				•				•				
3. Sign-up of MA's in Mentoring Program	Y. Nemchinova	•				•				•				
4. New students complete E-PAP and submit	MA's		•				•				•			
5. Mentors review E-PAP	R. Khan		•				•				•			
6. Web-based meeting between new students/mentors/MA's to discuss E-PAP (1 mentor/5 students)	R. Khan		•				•				•			
7. Follow-up meetings between students/MAs	R. Khan		•	•	•			•	•	•		•	•	
8. Web-based Q&A forum w/ mentors	R. Khan			•	•				•	•				•
9. Completion of E-PAP report	MA's				•					•				
10. Revision of E-PAP by students	MA's				•					•				
11. Evaluation of the project and its effectiveness	External Evaluator			•	•	•			•	•	•			•
<b>Mini Pilot in Environmental Management PSM program</b>														
1. Training for new program (ENVM) to conduct a minipilot	Y. Nemchinova H. Siffert		•	•	•									
2. Sign-up of new students in Mentoring Program	Y. Nemchinova						•							
3. Tutorial for new students on tool and mentoring program	H. Siffert						•							
4. Sign-up of MA's in Mentoring Program	Y. Nemchinova						•							

Activities	Responsible Person	Month											
		1	2	3	4	5	6	7	8	9	10	11	12
5. New students complete E-PAP and submit	MA's							•					
6. Mentors review E-PAP	R. Khan								•				
7. Web-based meeting between new students/mentors/MA's to discuss E-PAP (1 mentor/5 students)	R. Khan								•				
8. Follow-up meetings between students/MAs	R. Khan								•	•	•	•	
9. Web-based Q&A forum w/ mentors	R. Khan									•	•		
10. Completion of E-PAP report	MA's										•		
11. Revision of E-PAP by students	MA's										•		
12. Evaluation of the effectiveness of the model	R. Beauchamp											•	•
<b>Development and Dissemination</b>													
1. Continue developing training components for online delivery	Y. Nemchinova H. Siffert									•	•	•	•
2. Start building a repository of resources	Y. Nemchinova									•	•	•	•
3. Develop a PSM programs website	H. Siffert										•	•	•
4. Present the model to other PSM programs	R. Beauchamp R. Khan											•	•
5. Evaluate resources and interest	R. Beauchamp R. Khan											•	•
<b>YEAR 4</b>													
<b>Project Management</b>													
1. Advisory Board Meeting	R. Khan R. Beauchamp J. Chen	•						•					•
2. Management Team		•		•		•	•	•					
3. Move some of the MA's to mentor roles	Y. Nemchinova									•	•	•	•
<b>Project Expansion</b>													
1. Expand the repository of resources	Y. Nemchinova H. Siffert			•	•	•							
2. Test the model in a new PSM program (INFA)	J. Chen						•	•	•	•	•	•	
3. Evaluation of the model	J. Chen Ext evaluator										•	•	•

Activities	Responsible Person	Month											
		1	2	3	4	5	6	7	8	9	10	11	12
<b>Dissemination</b>													
1. Make resources available to other PSM programs nationally	R. Khan						•	•	•				
2. Organize workshops to disseminate the model and results	R. Khan R. Beauchamp Y. Nemchinova H. Siffert									•	•	•	
3. Attend meetings/conferences to disseminate model	R. Khan R. Beauchamp J. Chen Y. Nemchinova H. Siffert											•	•
4. Make resources available to other PSM programs nationally	R. Khan						•	•	•				
5. Evaluation of interest and adoption of the model	Participants						•	•	•	•	•	•	•
<b>Grant end Evaluation</b>													
1. Collect data on student retention from BIOT and ENVM	R. Khan R. Beauchamp									•	•		
2. Evaluate model	External Evaluator	•	•	•	•	•	•	•	•	•	•	•	•

### Quality of Project Evaluation

Creating a web-based project involves multiple steps and considerations including formative evaluation during the development of the resources and tools and summative evaluation to assess the impact of the project. A number of specific approaches will be used for continuous monitoring and evaluation of the comprehensive program.

First, Dr. Yulia Nemchinova, an expert in usability testing working with UMUC's Institutional Planning, Research and Accountability Office, will assume responsibility for developing a performance measurement system of the E-PAP tool. Usability testing is a technique used to evaluate a product by testing it on users.

Second, UMUC has invited Dr. An Michiels, Director of Keygene Inc., a Maryland based biotechnology company, who has extensive experience reviewing and assessing

educational and business projects, to be our external evaluator. While working at the American Association for Advancement of Science (AAAS) she participated in "Assessment Project 2061" studying the alignment and effectiveness of hundreds of evaluation items drawn from a variety of sources, including items from the Third International Mathematics and Science Study (TIMSS) and National Assessment of Educational Progress (NAEP) and items from various curriculum materials.

The evaluation plan demonstrates the potential sustainability of the model. All the resources including the Web-based E-PAP tool, training material and tutorials will be developed for delivery in the online format and hence will be conducive to easy sharing. Since the tool will be developed using open source code, customized changes to the tool can be made by other institutions. Because of the online nature of the project, even the mentor and mentor assistant pool can be used by other, similar programs, who want to institutionalize the project.

### **Criteria and Data to be used for Evaluation**

A detailed listing of yearly objectives and indicators (measures) to be used for evaluating the outcomes of each objective is contained in the Appendix. Several of the measures provide quantitative data while others are necessarily qualitative. Typically, each activity will be assessed using a combination of methods. Some numerical measures are based on the testing of the E-PAP tool, number of participating mentors, number of participating mentees, retention and graduation rate of the mentees and effect on careers. Quantitative and qualitative data will be gathered via questionnaires, surveys, and evaluations by program participants.

### **Comprehensive Evaluation Plan**

The following evaluation plan has been designed to measure program effectiveness, scalability, replicability, and sustainability. The project goal stipulates that by September 30,

2012, UMUC will have developed, tested, implemented, evaluated and disseminated a national model that integrates a comprehensive industry guided E-PAP into PSM programs.

<b>Evaluation Objectives</b>	<b>Data Sources</b>	<b>Data Evaluation method</b>	<b>Data Analysis and Interpretation</b>	<b>Use</b>
<b>Year 1</b>				
Develop, design and evaluate an electronic Professional Action Plan (E-PAP) tool	1. Advisory Board 2. Project partners 3. Developers 4. External Evaluator	1. Estimate cost associated with each step 2. Determine tool stability statistics 3. Conduct Usability testing	Cost effectiveness, reliability, efficacy and availability of the tool will be determined	To improve performance of the tool
Develop, run and evaluate the training aspect of the industry-guided mentoring program	1. Project Partners 2. Mentors 3. Developers 4. External Evaluator	1. Distribute Questionnaire 2. Estimate participation level 3. Conduct Interviews 4. Conduct Usability testing	Ease of use and the time spent to navigate through the tool. Design and delivery of the training program	To enhance the quality of the training resources and the tool and to make it easy to understand and use effectively
<b>Year 2</b>				
Conduct a pilot study of the web-based, industry-guided E-PAP project in the Biotechnology PSM Program	1. Mentors 2. Students 3. Mentor Assistants 4. External Evaluator	1. Review student evaluations 2. Determine participation level 3. Conduct Surveys 4. Review External evaluator's assessment	Participants' satisfaction and increased performance. Design of the project and the ease of use.	Increase participants' satisfaction and provide a quality and meaningful interaction
<b>Year 3</b>				
Conduct a full program study of the web-based, industry-guided E-PAP in the Biotechnology PSM Program	1. Mentors 2. Students 3. Mentor Assistants 4. External Evaluator	1. Review student evaluations 2. Conduct surveys 3. Review External evaluator's comments 4. Conduct Interviews 5. Collect Institutional data	Students, mentors and mentor assistants' satisfaction and experience follows the pilot's trends and is reflected in institutional data	Make program and mechanistic changes to enhance the project and the program

<b>Evaluation Objectives</b>	<b>Data Sources</b>	<b>Data Evaluation method</b>	<b>Data Analysis and Interpretation</b>	<b>Use</b>
Conduct a pilot study of the web-based, industry-guided E-PAP project in the Environmental Management PSM program	1. Mentors 2. Students 3. Mentor Assistants 4. External Evaluator	1. Review student evaluations 2. Determine participation level 3. Conduct surveys 4. Review External evaluator's comments	Outcomes similar to those observed in the Biotechnology program will indicate the replicable nature of the project	Share the data with other PSM programs to promote the usability and reliability of the model
Develop and digitize resources for the model and share them with other PSM programs	1. Faculty 2. Staff 3. Developers	1. Determine number and type of resources 2. Estimate cost associated with each resource	Increased interest in the academic community indicative of the sustainability of the model	Assist in encouraging other programs to pilot the model
<b>Year 4</b>				
Continue to create and modify sharable resources for the model	1. Faculty 2. Staff	1. Determine number of online resources 2. Determine need for the resources 3. Estimate cost associated with the development	Support for capacity building and cost effectiveness	To take the model to the national level
Organize and attend meetings/symposia to disseminate the model and the resources	1. Mentors 2. Industry 3. Academic institutions	1. Determine number of meetings 2. Categorize types of meetings 3. Assess audience interest at meetings	Build support and interest in the model	Demonstrate the model's potential to be replicable and sustainable
Combine and analyze the data collected from the various studies over the 3 year period	1. Participants 2. Programs	1. Conduct Surveys 2. Review E-PAP performance data 3. Review external evaluator's comments 4. Collect Institutional	Underscore the impact of the project on the participants	Support the original hypothesis that early industry-student interaction is mutually beneficial

		data		
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## **Adequacy of Resources**

UMUC and its collaborators have extensive, directly relevant experience to undertake this project. This experience involves the UMUC staff at the cutting edge in development and implementation of an electronic Industry Guided Professional Action Plan (E-PAP) tool. The industry participants will contribute their expertise in guiding the students through the use of the E-PAP tool. UMUC has the facilities, equipment, and data availability to analyze the program and make timely revisions. UMUC, as a recognized leader in online delivery, has the infrastructure and expertise to support the development and design of a Web-based project, negating the need to seek outside resources. The proposed budget is adequate to implement the activities outlined in the grant in a cohesive and timely manner. The cost for project implementation is reasonable, based on the anticipated local and nationwide impact of the project.

The collaborators in this project contribute professional expertise in the areas of research and industry climate and expectations, combined with best practices related to industry standards. The collaborative efforts of the partners provide knowledge that enables universities to have a deeper understanding of the challenges facing their students in the workforce environment. Professionals from participating corporations volunteer their time and effort to sit on committees and advise the UMUC staff on project implementation.

UMUC is heavily vested in the educational and workforce needs of our students' through both the concept and process of online delivery. This project compliments our continued effort to provide a quality education to nontraditional students. The incorporation of this model at our institution will provide added value not only to our students, but also to our industry collaborators. This E-PAP component will become an integral part of the PSM programs at

UMUC and can be replicated throughout the nation. The expenditures of time and resources have already begun and demonstrate UMUC's commitment to this project.

# **Project Narrative**

## **Other Narrative**

### Attachment 1:

**Title: Pages: Uploaded File: 9383-Mandatory\_Project\_Evaluation\_Chart.doc**

### Attachment 2:

**Title: Pages: Uploaded File: 7876-Key\_Personnel\_Summaries.doc**

### Attachment 3:

**Title: Pages: Uploaded File: 8651-FIPSE\_Letters.pdf**

### Attachment 4:

**Title: Pages: Uploaded File: 9198-References\_Cited.doc**

**Project Evaluation Chart**  
Evaluation methodologies

<b>Year/Objectives</b>	<b>Evaluation Method</b>
<p><b>Year 1</b></p> <p>1. Develop, design and evaluate an electronic Professional Action Plan (E-PAP) tool</p> <p>2. Develop, run and evaluate the training aspect of the industry-guided mentoring program</p>	<p>1. Estimate cost associated with each step</p> <p>2. Determine tool stability statistics</p> <p>3. Conduct Usability testing</p> <p>4. Distribute Questionnaire</p> <p>5. Estimate participation level</p> <p>6. Conduct Interviews</p>
<p><b>Year 2</b></p> <p>1. Conduct a pilot study of the web-based, industry-guided E-PAP project in the Biotechnology PSM Program</p>	<p>1. Review student evaluations</p> <p>2. Determine participation level</p> <p>3. Conduct Surveys</p> <p>4. Review External evaluator's assessment</p>
<p><b>Year 3</b></p> <p>1. Conduct a full program study of the web-based, industry-guided E-PAP in the Biotechnology PSM Program</p> <p>2. Conduct a pilot study of the web-based, industry-guided E-PAP project in the Environmental Management PSM program</p> <p>3. Develop and digitize resources for the model and share them with other PSM programs</p>	<p>1. Review student evaluations</p> <p>2. Conduct surveys</p> <p>3. Review External evaluator's comments</p> <p>4. Conduct Interviews</p> <p>5. Collect Institutional data</p> <p>6. Determine participation level</p> <p>7. Determine number and type of resources</p> <p>8. Determine number and type of resources</p> <p>9. Estimate cost associated with each resource</p>
<p><b>Year 4</b></p> <p>1. Continue to create and modify sharable resources for the model</p> <p>2. Organize and attend meetings/symposia to disseminate the model and the resources</p> <p>3. Combine and analyze the data collected from the various studies over the 3 year period</p>	<p>1. Determine number of online resources</p> <p>2. Determine need for the resources</p> <p>3. Estimate cost associated with the development</p> <p>4. Assess audience interest at meetings</p> <p>5. Determine number of meetings</p> <p>6. Categorize types of meetings</p> <p>7. Conduct surveys</p> <p>8. Review E-PAP performance data</p> <p>9. Review external evaluator's comments</p> <p>10. Collect Institutional data</p>

## **Rana Khan**

### **EDUCATION**

- Ph.D.** Molecular and Cell Biology, December 1999  
University of Maryland, College Park, MD
- M.S.** Biochemistry, August 1989  
Tulane University, New Orleans, LA
- M.S.** Chemistry, May 1985  
Indian Institute of Technology, New Delhi, India

### **EXPERIENCE**

#### **July 2006-Present**

Associate Professor and Program Director  
Biotechnology Studies, Information and Technology Systems  
University of Maryland University College, Adelphi, MD

#### **Administrative duties**

- Recruitment and development of quality faculty
- Counseling and advising students in the graduate program
- Mentoring faculty
- Identifying and pursuing funding opportunities in biotechnology education
- Pursuing collaboration opportunities, nationally and internationally
- Serving on various Committees
- Developing strategies for enhancing program quality and visibility
- Providing networking and career development opportunities to students

#### **Teaching duties**

- Development of new courses and syllabi
- Development of learning tools to enhance courses in Biotechnology
- Teaching web-based, face-to-face, and practicum courses in the Biotechnology Studies Program

#### **September 2003-June 2006**

Assistant Professor and Program Director  
Biotechnology Studies, Information and Technology Systems  
University of Maryland University College, Adelphi, MD

#### **August 2001-August 2003**

Adjunct Assistant Professor  
Biotechnology Studies, Information and Technology Systems  
University of Maryland University College, Adelphi, MD

#### **January 2000-August 2003**

Postdoctoral Research Associate  
Soybean Genomics and Improvement Lab  
USDA Beltsville Area Research Center, Beltsville, MD

#### **August 1994-December 1999**

Doctoral Student and Teaching Assistant  
Molecular and Cell Biology Program, University of Maryland, College Park, MD

#### **January 1991-November 1991**

Researcher  
Virology Lab, Dept. of Microbiology, SIU, Carbondale, IL

#### **August 1985-August 1989**

Research Fellow  
Department of Biochemistry, Tulane University School of Medicine, New Orleans, LA

**Robert G. Beauchamp**  
University of Maryland University College  
The Graduate School of Management and Technology

**EDUCATION**

Ph.D. - Geology/Geochemistry  
The University of Maryland, College Park, MD,

U.S. Navy Graduate Study Fellowship, Harvard University  
Department of Geology, Cambridge, Massachusetts,

M.S. - Geology, George Washington University,  
Washington, D.C

B.A. - Geology, George Washington University,  
Washington, D.C., 1966.

**PROFESSIONAL EXPERIENCE**

**10/93-Present -- The University of Maryland University College (UMUC)**  
Collegiate Professor/Director, The Master of Science Program in Environmental Management:  
Responsible for managing and developing the Master of Science degree program in Environmental Management and the Energy Resources Management & Policy Development track at the University of Maryland University College (UMUC)

**7/90-11/93 -- Waste Management Inc. (formerly Waste Management of North America, Inc.)**  
Environmental Programs Manager: Managed a multi-disciplinary team of principal investigators, environmental attorneys, and public relations experts. Projects included remediation of hazardous waste sites (including landfills), environmental assessments, groundwater quality investigations, facility site selection, and development of biodiversity management plans.

**9/74-9/84 -- U.S. Department of the Interior, Washington, D.C.**  
Senior Geologist/Program Manager: Managed multi-disciplinary scientific projects nationwide to identify and evaluate environmental impacts associated with energy and mineral resource development. Ensured that information was included in Impact Statements and decision documents to satisfy requirements of the National Environmental Policy Act. Retired from federal service.

**10/67-8/74 -- U.S. Naval Oceanographic Office, Department of The Navy, Suitland, MD.**  
Geologist: As team leader for environmental research, conducted national and international research on the dispersion of contaminants in coastal zones as a result of U.S. navy activities.

**PROFESSIONAL AFFILIATIONS:**

Founder and President (9/90-10/93) - The Atlanta Geological Society  
The Clay Minerals Society  
The National Association of Environmental Professionals  
The Geological Society of Washington

**PROFESSIONAL CERTIFICATIONS:**

Professional Geologist # 541 - Delaware  
Professional Geologist # 2073 - Tennessee

## **Dr. Jim Q. Chen, Ph.D.**

Dr. Jim Q. Chen, who has taught at University of Maryland University College (UMUC) for more than a decade, received the 2008 University System of Maryland's Board of Regents' Faculty Award for Teaching Excellence for his academic contributions and achievements at UMUC. Chen's major contributions to the university include developing the Information Assurance specialization in response to post-September 11 workforce conditions and trends and designed an interactive Network System and Security Laboratory at UMUC's main campus in Adelphi, Md. The lab was so successful that Chen was asked to duplicate the laboratory at UMUC campuses in Europe and Asia.

Chen has also been instrumental in designing and developing several other UMUC courses with a focus in systems security. Outside the classroom, he has co-authored a number of academic publications and continues pursuing research in the field of design and development of network systems and securities.

In 2006, Dr. Chen was chosen as one of only 20 participants in UMUC's year-long Leadership and Management Development Program (LMDP), a course created to inspire positive change in leadership methods.

### **Professional Preparation**

Fudan University, English Language & Literature, Bachelor of Arts, July 1982.

Fudan University, Linguistics, Master of Arts, July 1985.

University of Maryland at College Park, Linguistics, Doctor of Philosophy, July 1996.

Purdue University, Information Assurance and Security, Information Assurance Education Graduate Certificate (National Security Agency's Program held at the Center for Education and Research in Information Assurance and Security at Purdue University), August 2004.

University of Maryland University College, Leadership and Management Development Program Certificate, January 2007.

### **Appointments**

2006-Present, Professor and Program Director of Information Assurance, Department of Information and Technology Systems, Graduate School of Management & Technology, University of Maryland University College, College Park, Maryland.

2005-2006, Professor and Program Director of Applied Computer Systems, Department of Information and Technology Systems, Graduate School of Management & Technology, University of Maryland University College, College Park, Maryland.

2004-2005, Associate Professor and Program Director of Applied Computer Systems, Department of Information and Technology Systems, Graduate School of Management & Technology, University of Maryland University College, College Park, Maryland.

2001-2004, Associate Professor and Program Director of Information and Telecommunications Studies, Department of Information and Telecommunications Studies, Graduate School of Management & Technology, University of Maryland University College, College Park, Maryland.

1997-2001, Assistant Professor, Department of Information and Telecommunications Studies, Graduate School of Management & Technology, University of Maryland University College, College Park, Maryland.

1995-2001, Network Engineer, Department of Information Technology, University of Maryland University College, College Park, Maryland.

1994-1995, IT Support Specialist, Department of Information Technology, University of Maryland University College, College Park, Maryland.

1989-1994, Graduate Assistant in Computer Support, Department of Information Technology, University of Maryland University College, College Park, Maryland.

1988-1989, Graduate Teaching Assistant, Department of Linguistics, University of Maryland at College Park, College Park, Maryland.

## **Yulia Nemchinova**

### **EDUCATION**

**Doctorate in Communications Design, University of Baltimore, 2007**

**(Dissertation: The Feasibility of Using Software Tools in Teaching Technical Courses)**

The Program focused on development and application of advanced communication techniques. Examples of the completed coursework:

- Humans, Computers and Cognition
- Interaction and Interface Design
- Information Architecture
- Dynamic Websites
- Interactive Multimedia (Received an award for design and development of an interactive holiday card)
- Hypermedia Production

***M.S., University of Maryland University College, 2001***

***Computer Systems Management; Database Systems and Security Track***

***B.S., Tiraspol State University, Moldova, 1989***

***Biology major, Chemistry minor; Five-year course of study including thesis project***

### **PROFESSIONAL EXPERIENCE**

**Senior Instructional Support Specialist (September 2001-Present) – University of Maryland University College, Adelphi, Maryland**

Provide technical, project management and distance education expertise in consulting academic directors and faculty; conceptualize and develop instructional objects; facilitate instructional and curricular enhancements to improve an overall course quality. Provide strategies to faculty that improve their ratings. Lead editorial efforts for DE Oracle @ UMUC, an online faculty magazine. Evangelize importance of usability; consult colleagues on applying user-centered design principles to departmental projects. Examples of recent achievements:

- Redesigned the Council of University System Faculty (University System of Maryland) Web site, 2007-2008
- Developed an annual symposium and a departmental Web sites for Biotechnology Studies Program at the Graduate School of Management & Technology that contributed to this program's winning of a UCEA Award, 2006
- Proposed a user-centered design initiative to raise awareness about usability and its potential for the university, 2006
- Directed staff of 6 for five months during a reorganization, 2005

**Adjunct Assistant Professor (February 2008 – Present) – Graduate School of Management and Technology, University of Maryland University College, Adelphi, Maryland**

- Principles of Technology Management course

**Biologist, Center for Agricultural Biotechnology (April 1994 to September 2001) – University of Maryland Biotechnology Institute, College Park, Maryland**

- Conducted molecular implementation of several research projects, aimed to control economically important plant pathogens. Trained and mentored a number of visiting research scholars from the US and abroad

**Plant Biotechnology Fellowship (September 1989 to January 1991) – Plant Physiology Institute, Academy of Sciences, Kishinev, Moldova**

## **Heloisa de Abreu Siffert**

### **EDUCATION**

**Middlesex University, Department of Art and Design, Graduate School, England – 1992**

**MA Computing in Design, A with Distinction**

**Thesis: Siffert, H. Abstract Animation, Art and Computers an Investigation into their relationship.**

**City of London Polytechnic - London - 1991**

**Diploma in Art and Design - Computer Graphics**

**Federal University of Rio de Janeiro, Brazil - 1988**

**BA Industrial Design**

### **PROFESSIONAL EXPERIENCES**

**University of Maryland University College, MD**

***Centre for Support of Instruction***

**Facilitates delivery of quality distance education by the faculty of UMUC to its students worldwide. This is accomplished by providing consultation and development to faculty members and academic administrators with respect to adoption, integration, and appropriate use of online teaching strategies, tools, new web technologies, web design and best practices.**

**August – 2001 to present –Instructional Support Specialist**

**Activities**

- Classroom quality assurance and support
- Guidance in the setup, design and management of online classrooms
- Development and dissemination of specialized training modules on: effective use of hardware, software and online course delivery systems, methods, tools, etc
- Instructional design support, including learning object development (flash animations, streaming audio and video) and coordination.
- Collaborating in the publishing process of the DE Oracle@UMUC faculty "ezine" <http://deoracle.org>
- Facilitating knowledge-sharing among faculty and administrators while maintaining currency in technical web skills and Distance Education related field.
- Liaison with other faculty support units and vendors in project planning, management, and evaluation activities
- Support and troubleshoot technical issues for all hardware, software and systems related to course delivery
- Maintenance of some department webpages
- Media Lab coordinator

**2000 – RIOFILME, Brazilian Film Distributor – Rio de Janeiro**

**Web Designer consultant**

**1999/2000 – GIROS Video Productions - Rio de Janeiro**

**Company corporate identity, Company web design and development , video-graphics**

**1999/2000 – Catholic University of Rio de Janeiro, PUC-RIO**

**Faculty member of Art and Design Department**

**1999/2000 – Pinheiro Guimarães Faculty of Communication, Rio**

**Faculty member – Introduction to Graphic Design**

**1996/1999 – Federal University of Rio de Janeiro, Communication School**

**Researcher for the Virtual Reality Project VISORAMA**

**1993/1996 – MAGNETOSCOPIO – New Media Production Center, Rio**

**Video Animation, graphic design for TV and print, desktop publishing**

## An Michiels, PhD

### SUMMARY OF QUALIFICATION

Innovative project manager, scientist and engineer with 10 years experience in leading multiple research projects, contract management, evaluation and assessment of research collaborations and projects. Areas of expertise are biotechnology, engineering, automation and assays and tool development. Published 12 peer reviewed publications. Active in organizations such as National Science Foundation (NSF), Universitaire Stichting, American Association for Advancement of Science (AAAS), Maryland Biotechnology and Technology Council of Maryland.

### EDUCATION

Ph.D., Doctor in Applied Biological Science	1998-2003
Master in Engineering in Applied Biological Science	1991-1996
Master in Education	1994-1996

### PROFESSIONAL EXPERIENCE

#### **Keygene, Inc. Rockville, USA**

##### Director

2005 until recent

- Established *Keygene Inc.*, Research Subsidiary of *Keygene N.V.*, a biotechnology company with headquarters in The Netherlands. Administered legal, financial, business and personnel responsibilities for Keygene, Inc.
- Evaluated business plans and project as part of Maryland Innovation Board admission program.
- Reviewed multiple internal innovation projects as part of Keygene "new innovation strategy"
- Established the partnership program "Dare to share", an initiative to increase external research collaborations.
- Assessed academic research projects and identified 135 innovative technology leads aligned to specific production bottlenecks in the company and translated 4 leads into specific validated products or techniques.

#### **National Science Foundation Arlington, USA**

##### Reviewer

2007

- Served as a technology expert in the National Science Foundation's (NSF) "Tool and Assay" panels for reviewing the Small Business Innovation Research grants and Small Business Technology Transfer programs.

#### **American Association for Advancement of Science, USA**

##### Research Fellow Assessment

2005

- Reviewed and implemented science assessment procedures.
- Organized national assessment meetings and review panels.

#### **University of Maryland, USA**

##### Researcher

2002-2004

Functional analysis of the ethylene response gene and its role in copper homeostasis.

#### **K.U. Leuven, Belgium**

##### Researcher

1999-2002

Molecular cloning and characterization of Fructan 1-exohydrolases.

#### **R.U. Gent, Belgium**

##### Research Associate

1997-1998

Self-incompatibility in *Lolium perenne*.

#### **Deroose Laboratory for *in vitro* Manipulation Gent, Belgium**

##### Production manager

1996-1997

Optimization of *in vitro* propagation of *Bromeliaceae*.



9713 Key West Avenue, Suite 100  
Rockville, MD 20855  
240-243-4026  
[www.techcouncilmd.com](http://www.techcouncilmd.com)  
April 30, 2008

Dr. Rana Khan  
Graduate School  
University of Maryland University College  
3501 University Boulevard East  
Adelphi, MD 20783

Dear Dr. Khan,

As Executive Director of the MdBio, a Division of the Tech Council of Maryland (TCM) and on behalf of my organization, I am pleased to support the University of Maryland University College in its grant application to the U.S. Department of Education, Comprehensive Program under the Funds for Improvement of Post secondary Education (FIPSE) grant.

The project proposed by UMUC focuses on enhancing the quality of a Professional Science Master's programs through the development and dissemination of a web-based Guided Professional Action Plan (e-PAP) that is threaded through the course of a Professional Science Master's (PSM) degree program. Upon entering a PSM program each student will be provided an opportunity to reflect upon and document their professional goals and specific actions that the student plans to take to move toward and achieve these goals. These web-based PAP forms will be reviewed by industry mentors, who will offer suggestions and guidance to assist the student successfully, navigate through the program and identify the best career opportunity. By partnering with UMUC on this project we hope to develop a relationship that will benefit both our members and UMUC students.

TCM/MdBio is an organization that has always had close ties with academia through a variety of educational projects. It consists of hundreds of member companies from the Maryland area that represent both Life Sciences and Information technology industries. The mission of TCM/MdBio is to support and advance Maryland's bioscience industry. Our areas of emphasis include corporate and business development, networking and community building, education and workforce development, advocacy and communications. Our goal is to create an environment where bioscience businesses can collaborate, grow and succeed.

As a strong supporter of this proposal, TCM/MdBio will assist UMUC in building the mentor pool for this project by tapping into its member companies. We will also participate in the marketing of this project and partaking in some of the workshops and symposia that will be organized to disseminate this project. We will also identify companies from our membership list interested in providing capstone projects for the students.



TCM/MdBio looks forward to a collaborative and sustained working relationship with you and the University of Maryland University College in providing these mutually beneficial opportunities to companies in Maryland.

For contact or any questions please contact me at (b)(6)

Sincerely,

Richard A. Zakour, PhD  
Executive Director  
MdBio and MdBio Foundation  
Tech Council of Maryland



**WOMEN IN BIO**

*Innovative Entrepreneurs, Executives, and Scientists*

April 29, 2008

Dr. Rana Khan  
University of Maryland University College  
Graduate School  
3501 University Boulevard East  
Adelphi, MD 20783

Dear Dr. Khan,

Women In Bio (WIB) supports your efforts to provide this innovative program to enhance the quality of the Professional Science Master's degree. This forward-thinking program helps students focus on their goals. Students can achieve their goals more when they express them to others. I like the mechanism for teaming a mentor with a student by having the mentor select which student they would like to help. By having the mentor pick the mentee, the mentor is more likely to be committed to mentoring the student.

WIB has been involved in several of UMUC's career development programs. The content of the events and speakers have been of the highest caliber and the students seemed to benefit greatly. Women In Bio is proud to be associated with UMUC and its programs.

Sincerely,

*Robbie Melton*

Robbie Melton  
President

PO Box 34043, Bethesda, MD 20827

Phone: 703.819.7647 email: [womeninbio@comcast.net](mailto:womeninbio@comcast.net) website: [www.womeninbio.org](http://www.womeninbio.org)

Women In Bio is funded in part by Biotechnology Industry Organization, Maryland Dept. of Business and Economic Development Miles & Stockbridge, P.C., RCM&D, WilmerHale, and UMBC ACTIVATE



**DEPARTMENT OF ECONOMIC DEVELOPMENT**

Isiah Leggett

*County Executive*

Pradeep Ganguly

*Director*

Dr. Rana Khan  
Associate Professor and Program Director  
Biotechnology Program  
Graduate School of Management and Technology  
University of Maryland University College  
3501 University Boulevard East  
Adelphi, MD 20783

April 23, 2008

Dear Dr. Khan,

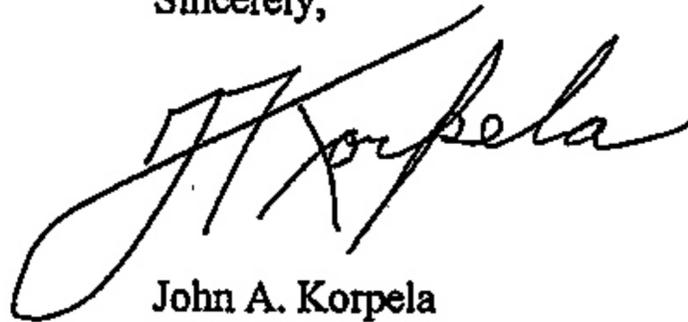
The Montgomery County Business Innovation Network (Montgomery County Department of Economic Development) is pleased to support the University of Maryland University College in its application to the U.S. Department of Education, Comprehensive Program under the Funds for Improvement of Post secondary Education (FIPSE) grant. Business Innovation Network founded by the Montgomery County Department of Economic Development is comprised of four business innovation centers which house over a 100 young technology companies. Companies represent a wide spectrum of advanced technology industries, including life sciences, information and communication technology, biotechnology, etc.

Montgomery County Business Innovation Network welcomes this opportunity to collaborate with Biotechnology Studies Graduate Program at UMUC. We hope that the collaboration of Business Innovation Center companies and graduate students will be mutually beneficial and will provide valuable experience and outcomes both to students and entrepreneurs. As a part of this partnership, we will support creating a pool of industry mentors from several of innovation network companies. Mentors will commit certain amount of time per semester to guide new students through the program via a professional action plan. We will also identify companies interested in participating in the student capstone projects. We will actively participate with UMUC in informational, training and dissemination workshops and symposia related to this project.

The Montgomery County Business Innovation Network looks forward to a collaborative, working relationship with you and the University of Maryland University College in providing these mutually beneficial opportunities to companies in Montgomery County, Maryland.

Please contact Nouné Sekhpossian at (b)(6) or [noune.sekhpossian@montgomerycountymd.gov](mailto:noune.sekhpossian@montgomerycountymd.gov) for any questions or additional information.

Sincerely,

A handwritten signature in black ink, appearing to read "J. Korpela". The signature is fluid and cursive, with a large loop at the beginning and a long tail.

John A. Korpela  
Manager  
Business Innovation Network  
Montgomery County Department of  
Economic Development

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# Budget Narrative

## Budget Narrative

### Attachment 1:

Title: Pages: Uploaded File: 2950-Mandatory\_Fipse\_Budget.doc

**Year 1 Budget**

<b>Item</b>	<b>Requested</b>	<b>In-Kind</b>	<b>Total</b>
<b>1. Personnel</b>			
Rana Khan (15%)	\$13,994		\$13,994
Yulia Nemchinova (30%)	\$35,604		\$35,604
Heloisa Siffert (30%)	\$34,434		\$34,434
Robert Beauchamp (5%)		(b)(4)	
Jim Chen (5%)			
<b>Total Personnel</b>	<b>\$84,032</b>		
<b>2. Fringe Benefits</b>			
26.5% of salary line	\$22,268	(b)(4)	
<b>Total Fringe Benefits</b>	<b>\$22,268</b>		
<b>3. Travel</b>			
Annual Project Director's Meeting in Washington DC for 3 days/2nights/2 people	\$3,000		\$3,000
<b>Total Travel</b>	<b>\$3,000</b>		<b>\$3,000</b>
<b>4. Equipment</b>			
<b>Total Equipment</b>			
<b>5. Supplies</b>			
Training Materials – notebooks, photocopying	\$1,000		\$1,000
Marketing flyers	\$500		\$500
<b>Total Supplies</b>	<b>\$1,500</b>		<b>\$1,500</b>
<b>6. Contractual</b>			
Meeting w/Advisory Broad/project partners	\$1,500		\$1,500
External Evaluator (Contractor 32 hours per month 3 months x \$100/hour)	\$9,600		\$9,600
Software Programmer (\$85/hour x 120 hours)	\$10,200		\$10,200
<b>Total Contractual</b>	<b>\$21,300</b>		<b>\$21,300</b>
<b>7. Construction</b>			
<b>Total Construction</b>			
<b>8. Other</b>			
<b>Total Other</b>			
<b>9. Total Direct Costs</b>	<b>\$132,100</b>	(b)(4)	
<b>10. Indirect Costs (54% of salaries)</b>	<b>\$45,377</b>		
<b>11. Total Costs</b>	<b>\$177,477</b>		

**Year 2 Budget**

<b>Item</b>	<b>Requested</b>	<b>In-Kind</b>	<b>Total</b>
<b>1. Personnel</b>			
Rana Khan (15%)	\$14,554		\$14,554
Yulia Nemchinova (30%)	\$37,028		\$37,028
Heloisa Siffert (30%)	\$35,811		\$35,811
Robert Beauchamp (5%)		(b)(4)	
Jim Chen (5%)			
<b>Total Personnel</b>	<b>\$87,393</b>		
<b>2. Fringe Benefits</b>			
26.5% of salary line	\$23,159	(b)(4)	
<b>Total Fringe Benefits</b>	<b>\$23,159</b>		
<b>3. Travel</b>			
Annual Project Director's Meeting in Washington DC for 3 days/2nights/2 people	\$3,000		\$3,000
<b>Total Travel</b>	<b>\$3,000</b>		<b>\$3,000</b>
<b>4. Equipment</b>			
<b>Total Equipment</b>			
<b>5. Supplies</b>			
Training Materials – notebooks, photocopying	\$1,000		\$1,000
<b>Total Supplies</b>	<b>\$1,000</b>		<b>\$1,000</b>
<b>6. Contractual</b>			
Meeting w/Advisory Broad/project partners	\$1,500		\$1,500
External Evaluator (Contractor 32 hours per month 3 months x \$100/hour)	\$9,600		\$9,600
<b>Total Contractual</b>	<b>\$11,100</b>		<b>\$11,100</b>
<b>7. Construction</b>			
<b>Total Construction</b>			
<b>8. Other</b>			
<b>Total Other</b>			
<b>9. Total Direct Costs</b>	<b>\$125,652</b>	(b)(4)	
10. Indirect Costs (54% of salaries)	\$47,192		
<b>11. Total Costs</b>	<b>\$172,844</b>		

**Year 3 Budget**

<b>Item</b>	<b>Requested</b>	<b>In-Kind</b>	<b>Total</b>
<b>1. Personnel</b>			
Rana Khan (10%)	\$14,379		\$14,379
Yulia Nemchinova (20%)	\$21,394		\$21,394
Heloisa Siffert (20%)	\$20,691		\$20,691
Robert Beauchamp (10%)		(b)(4)	
Jim Chen (10%)			
<b>Total Personnel</b>	<b>\$56,464</b>		
<b>2. Fringe Benefits</b>			
26.5% of salary line	\$14,963	(b)(4)	
<b>Total Fringe Benefits</b>	<b>\$14,963</b>		
<b>3. Travel</b>			
Annual Project Director's Meeting in Washington DC for 3 days/2nights/2 people	\$3,000		\$3,000
<b>Total Travel</b>	<b>\$3,000</b>		<b>\$3,000</b>
<b>4. Equipment</b>			
<b>Total Equipment</b>			
<b>5. Supplies</b>			
Training Materials – notebooks, photocopying	\$1,000		\$1,000
<b>Total Supplies</b>	<b>\$1,000</b>		<b>\$1,000</b>
<b>6. Contractual</b>			
Meeting w/Advisory Broad/project partners	\$1,500		\$1,500
External Evaluator (Contractor 16 hours per month 7 months x \$100/hour)	\$11,200		\$11,200
<b>Total Contractual</b>	<b>\$12,700</b>		<b>\$12,700</b>
<b>7. Construction</b>			
<b>Total Construction</b>			
<b>8. Other</b>			
<b>Total Other</b>			
<b>9. Total Direct Costs</b>	<b>\$88,127</b>	(b)(4)	
10. Indirect Costs (54% of salaries)	\$30,491		
<b>11. Total Costs</b>	<b>\$118,618</b>		

### Year 4 Budget

Item	Requested	In-Kind	Total
<b>1. Personnel</b>			
Rana Khan (10%)	\$14,954		\$14,954
Yulia Nemchinova (20%)	\$22,175		\$22,175
Heloisa Siffert (15%)	\$20,443		\$20,443
Robert Beauchamp (10%)		(b)(4)	
Jim Chen (10%)		(b)(4)	
<b>Total Personnel</b>	<b>\$57,572</b>		
<b>2. Fringe Benefits</b>			
26.5% of salary line	\$15,257	(b)(4)	
<b>Total Fringe Benefits</b>	<b>\$15,257</b>		
<b>3. Travel</b>			
Annual Project Director's Meeting in Washington DC for 3 days/2nights/2 people	\$3,000		\$3,000
<b>Total Travel</b>	<b>\$3,000</b>		<b>\$3,000</b>
<b>4. Equipment</b>			
<b>Total Equipment</b>			
<b>5. Supplies</b>			
Training Materials – notebooks, photocopying	\$1,000		\$1,000
<b>Total Supplies</b>	<b>\$1,000</b>		<b>\$1,000</b>
<b>6. Contractual</b>			
Meeting w/Advisory Broad/project partners	\$1,500		\$1,500
External Evaluator (Contractor 16 hours per month 12 months x \$100/hour)	\$19,200		\$19,200
<b>Total Contractual</b>	<b>\$20,700</b>		<b>\$20,700</b>
<b>7. Construction</b>			
<b>Total Construction</b>			
<b>8. Other</b>			
Organize and deliver workshops to disseminate model and results	\$2,000		\$2,000
<b>Total Other</b>	<b>\$2,000</b>		<b>\$2,000</b>
<b>9. Total Direct Costs</b>	<b>\$99,529</b>	(b)(4)	
10. Indirect Costs (54% of salaries)	\$31,089	(b)(4)	
<b>11. Total Costs</b>	<b>\$130,618</b>	(b)(4)	