

Curriculum Vitae

ROY T.R. McG4(T3.J ET <</4.4/F4-17(y)18()-2(PN4.3ET B

Teaching

Courses Taught at Binghamton University SUNY

Course Description	Course Number	Level	Semester Credit Hours	Number of Semesters/(Groups)
Graduate				
Advanced Computer Aided Engineering	ME 582	Graduate	3	3
Computer Aided Engineering	ME 581	Graduate	3	8
Design of Mechanical Elements	ME 580X	Graduate	3	1
Graduate Independent Study	ME 597	Graduate	3	(14)
Practicum in Engineering Education	WTSN 701	Graduate	3	(4)
Undergraduate				
Interdisciplinary Design Project I & II	ME 493/494	Senior	1/1	(20)
Mechanical Vibrations	ME 421	Senior	3	1
Advanced Computer Aided Engineering	ME 482	Senior	3	2
Practicum in Engineering Education	WTSN 492	Senior	3	(12)
Design of Mechanical Elements	ME 480X	Senior	3	1
Computer Aided Engineering	ME 481/381	Senior/Junior	3	12
Undergraduate Independent Study	ME 497/397	Senior/Junior		

Thesis Committees

Binghamton University

Advisor/Chair of Ph.D. Committee

Howell, Abraham: Development and Validation of a Low Cost, Flexible, Open Source Robot for Use as a Teaching and Research Tool Across the Educational Spectrum (Ph.D., 2012)
 Gieskes, Koenraad: (Ph.D. expected 2011)

Advisor/Chair of M.S. Committee

Gieskes, Koenraad: (M.S., 2009) Method of Fatigue Life Prediction and Extension of Aircraft Structures
 Roefs, James: (M.S., non-thesis, 2009)
 Dartt, Kevin: (M.S., 2010) Computational Modeling and Optimization of an Iron Melting Cupollette Furnace
 Bryant, Aric: (M.S., 2011) Integration of Engineering and Aesthetic Design: An Examination of Design Techniques and Educational Pedagogy
 DeRusso, Charles: (M.S., non-thesis, 2012) Project: Visual Representations in Mechanical Engineering Education

Committee Member

Ph.D. (3)
 M.S. (41)

The University of Tulsa

Committee Member M.S. (1)

Service

National

2007-Present	ABET Program Evaluator, General Engineering Program ASSE
2000-2013	Member of ANSI /AWS National Standards Committee C2 on Thermal Spray Coatings
2012	NSF Proposal Review Panel for Research in Engineering Education
2012	NSF Proposal Review Panel for Coatings and Surface Modifications, SBIR/STTR Program
2011	NSF Rigorous Research in Engineering Education Workshop. Golden, CO
2010	NSF Proposal Review Panel for Coatings and Surface Modifications, SBIR/STTR Program
2009	NSF Workshop on Engineering Education Evaluation Tools Arlington, VA
2005	NSF

Reports and Publications

A. Archived Publications (4)

- ³ (Q K D Q F L Q J (Q J L Q H H A d d e s i g n & E d u c a t i o n U s i n g L e c t u r e s R e c o r d e d o n t h e R . T . R . M c G r a n n , J o u r n a l o f E d u c a t i o n a l T e c h n o l o g y S y s t e m s . 3 4 (2) 1 8 3 1 9 3 , 2 0 0 5 2 0 0 6 .
- ³ 7 K H (I I H F W R I & R D W L Q J 5 H V L G X D O 6 W U H V V R Q W K H) D W L J X H / L I H R I 7 K M c G r a n n , D . J . G r e v i n g , J . R . S h a d l e y , E . F . R y b i c k i , L . K r u e c k e , a n d B . E . B o d g e S u r f a c e a n d C o a t i n g s T e c h n o l o g y E d . B . T . S a r t w e l l , 1 0 8 0 9 (1 9 9 8) , p p . 5 6 4 .
- ³) D W L J X H / L I H L Q % H Q G L Q J D Q G & R D W L Q J 5 H V L G X D O 6 W U H V V L Q 7 X Q J M c G r a n n , D . J . G r e v i n g , E . F . R y b i c k i , R I S h a d l e y , D . A . S o m e r v i l l e , W . A . E m e r y a n d B . E . B o d g e J o u r n a l o f T h e r m a l S p r a y T e c h n o l o g y E d . C . C . B e r n d t (M e t a l s P a r k , O h i o : A S M I n t e r n a t i o n a l) V o l . 7 (4) , D e c e m b e r , 1 9 9 8 , p p . 5 4 5 2 .
- ³ 7 K H (Y D O X D W L R Q R I 7 X Q J V W H Q & D U R E P l a c e m e n t s f o r U P e r o x i d e S t r e e t C h a n e R e D W L Q J V 3 O D W L Q J R Q \$ L U F U D I W / D Q G L Q J * H D U ' % (% R G J H U ' P a t i n g R P H U Y L O O a n d S u r f a c e F i n i s h i n g J o u r n a l o f t h e A m e r i c a n E l e c t r o p l a t e r s a n d S u r f a c e F i n i s h e r s S o c i e t y (A E S F) , V o l . 8 4 , N o . 9 , S e p t e m b e r 1 9 9 7 , p p . 5 5 .

B. Conference Proceedings and Presentations (40)

40. ³ 9 L V X D O 5 H S U H V H Q W D W L R Q V L Q 0 H F K D Q L F D O (Q J L Q H H a n d Q J (G X F D W L R o y M c G r a n n , P r o c e e d i n g s o f t h e 2 0 1 2 A S E E A n n u a l C o n f e r e n c e a n d E x h i b i t i o n S a n A n t o n i o T X , 1 0 - 1 3 J u n e 2 0 1 2 . P a p e r # 4 4 6
39. ³ \$ Q ([D P S O H R I W K H 9 D U L D W L R Q V R I 9 L V X D O 5 H S U H V H Q W D W L R Q V L Q G i e s k e s , C h a r l e s D e R u s s e l l a n d R o y M c G r a n n , P r o c e e d i n g s o f t h e 4 0 ^h A S E E / I E E E F r o n t i e r s i n E d u c a t i o n C o n f e r e n c e (F I E) R a p i d C i t y , S D , 1 2 1 5 O c t o b e r 2 0 1 1 . P a p e r # 1 4 4 3 .
38. ³ , Q W U R G X F L Q J (Q J L Q H H a n d Q J 5 W X G H L G V O H X U L Q J D * U H H Q 6 X P P H U , Q V W a n d R o y M c G r a n n , P r o c e e d i n g s o f t h e 3 9 ^h A S E E / I E E E F r o n t i e r s i n E d u c a t i o n C o n f e r e n c e (F I E) I n g t o n , V A , 2 7 - 3 0 O c t o b e r 2 0 1 0 . P a p e r # 6 3 1 .
37. ³ Go Green ± Using Sustainability Engineering in a Middle School Summer Program 5 R \ 7 5 0 F * U D Q Q W a y n e J o n e s , S u s a n n a h G a l l , a n d A n d y C a v a g n e P r o c e e d i n g s o f t h e 2 0 A S E E A n n u a l C o n f e r e n c e a n d E x h i b i t i o n , L o u i s v i l l e , K Y , 2 0 - 2 3 J u n e 2 0 1 0 . P a p e r # 1 6 1 8 .
36. ³ A General Engineering Minor as a Means to Encourage Technological Literacy 5 R \ 7 5 0 , F * U D Q Q P r o c e e d i n g s o f t h e 2 0 A S E E A n n u a l C o n f e r e n c e a n d E x h i b i t i o n , L o u i s v i l l e , K Y , 2 0 - 2 3 J u n e 2 0 1 0 . P a p e r # 1 4 0 5 .
- 35 ³ \$ % (7 \$ V V H V V P H Q W R I , Q - W O H L V G L D W F H S O & Q S U W R V W H G Q Q M Q H H U L Q J 3 U R M R . M c G r a n n , a n d J a m e s T . S t a r k P r o c e e d i n g s o f 3 9 A S E E / I E E E F r o n t i e r s i n E d u c a t i o n C o n f e r e n c e (F I E) S a n A n t o n i o , T X , 1 8 2 1 O c t o b e r 2 0 0 9 . P a p e r # 1 0 7 3 .
- 34 ³ 7 K H 5 R O H R I \$ F W L Y H / H D U Q L Q J W K U R X J K / D E R U D W R U \ ([S H U L P H Q W I < H D U (Q J L Q H H U L Q J 3 U R J U D P V ' \$ U L F % U \ D Q W P r o c e e d i n g s o f 3 9 A S E E / I E E E F r o n t i e r s i n E d u c a t i o n C o n f e r e n c e (F I E) S a n A n t o n i o , T X , 1 8 2 1 O c t o b e r 2 0 0 9 . P a p e r # 1 4 4 3 .
- 33 ³ , Q F U H D V L e n t e r e d L e a r n i n g O n a F i r s t H D U (Q J L Q H H U L Q J 3 U R J U D P ' . R H Q U D D G * R o y M c G r a n n , P r o c e e d i n g s o f 3 9 ^h A S E E / I E E E F r o n t i e r s i n E d u c a t i o n C o n f e r e n c e (F I E) S a n A n t o n i o , T X , 1 8 - 2 1 O c t o b e r 2 0 0 9 . P a p e r # 1 4 4 0 .

- 27 ³ \$XWRQRPRXV 5RERWV DV D *HQHULF 7HDFKLQJ 7RRO ' \$EUDKDP +
McGrann, Proceedings of the 36th ASEE/IEEE Frontiers in Education Conference (FIE) San Diego, CA, 28-31
October 2006. Paper #1674.
- 26 ³ &ROODERUDWLYH 3DUWQHUVKLSV :ULWLQJ LQ WKH (QJLQHHULQJ &
IURP WKH (QJOLVK 'HSDUWPHQW WR ,PSURYH WKH :ULWLQJ 6NLOOV
Sharon B. Fellows, and E. Matt Laferty, Proceedings of the 35th ASEE/IEEE Frontiers in Education
Conference (FIE) Indianapolis, IN, 19-22 October 2005. Paper #1587.
- 25 ³ 3UHSDULQJ 6WXGNQWVFRDUS%&XOYHU 5R\ 0F * Proceedings of the
35th ASEE/IEEE Frontiers in Education Conference (FIE) Indianapolis, IN, 19-22 October 2005. Paper
#1266.
- 24 ³ \$VVHVVLQJ WKH (IHFWLYHQHVV RI D \$DGHGDQLFDJQ (SRXQVHH ULQR)\
McGrann, Proceedings of the ASEE Zone I Conference, West Point, NY, 28 March, 2008.
- 23 ³ 8VLQJ =LJ%HH WR &RQWURO D 6ZDUP RI /RZ &RVW 5), ')RUDJLQJ 5
McGrann, and Richard R. Eckert, Robotics Science and Systems Conference Proceedings, Atlanta, GA, 27
June 2007.
- 22 ³ 8VLQJ \$XWRQRPRXV 5RERWV DV D *HQHULF 7HDFKLQJ 7RRO ' \$EUDKDP +
McGrann, Proceedings of the 36th ASEE/IEEE Frontiers in Education Conference (FIE) San Diego, CA, 28-31
October 2006. Paper #1674.

- 13 ³)DWLJXH /LIH LQ +92) 7XQJVWHQ &DUELGH &RDWHG \$OXPLQXP DQ
BendinJ DQG WKH , QIOXHGFH RI &RDWLQJ 5HVLGXDO 6WUHV V ' - 0 :LOV
E.F. Rybicki, D.J. Greving, and J. Nuse, , 17-
19 March, 1999, in Düsseldorf, Germany, Ed. E. Schneider and P.A. Kammer, pp. 4683.
- 12 ³(YDOXDWLRQ RI 5HVLGXDO 6WUHV VHV DQG)DWLJXH /LIH RI 7XQJV
/DQGLQJ *HDU \$SSOLFDWLRQV ' 5 7 5 0F*UDQQ ' - *UHYLQJ - 5 6K
Bodger, and D.A. Somerville, Thermal Spray: Meeting the Challenges of the 21st Century Proceedings the
15th International Thermal Spray Conference, Ed. Christian Coddet, (Materials Park, OH: ASM International,
1998), Nice, France, May 27-29, 1998, Vol. I, pp557-562.
- 11 K 17 (DHO (61\$1% \R & R & R D W R Q R 55W @ SGXDO 6WUHV V RQ WKH)DWLJXH /LIH R

D. Conference and Symposium Presentations not in Proceedings (1)

17. ³* R * UHHQ 8 VLQJ D QTHQ L S R R P S C W E P O Q (The 1st Summer Science Program to Attract and Retain Interest in
67(0 DPRQJ +LJK 3 HUIR UPLQJ 0 D Q I O R H N A F K R Y C A S W E S S A R D A V G
Koenraad Gieskes, Wayne E. Jones Jr., Roy McGrann), 2012 Biennial Conference on Chemical
Education, University Park, PA, 29 July ±2 August, 2012.

16. ³7KH 3UDFWLFH RI 'HVLJQ DQG & ROODERUDWLRQ EHWZHHQ \$UWLVWV
McGrann, presented at the 12th International Sculpture Conference, Chicago, IL, 46 October 2012.

³: R-I-P Progress: Bringing SOCRATES into Computer \$ V V L V W H G , Q V W U X F W L R Q ' 6 W H S K H G
Belohlavek, Scott Craver, Roy McGrann, and Lei FLE, Saratoga Springs, NY, 2225 Oct 2008.

E. Other Consulting Reports (13)

13 Finite Element Analysis of Above Ground Pool Stairs and Lap Pools, SPIR (Strategic Partnership for Industrial Resurgence State of New York), Final Report for Crestwood Pools, Christopher Rhoads and Roy T.R. McGrann (May 2009). Proprietary

12 Finite Element Analysis (FEA) of the Visual Support Structures for Flight Simulator, SPIR (Strategic Partnership for Industrial Resurgence State of New York), Final Report for Binghamton Simulator Company, Steven Senigla and Roy T.R. McGrann (May, 2009). Proprietary

11 'LPHQVLRQDO DQG \$FFXUDF\ & RQWURO \$XWRPDWLRQ ' 6WHSKHQ (McGrann, (June, 2000). Proprietary, Bath Iron Works (General Dynamics)

10 '6\$ 7RUFK 'HVLJQ ' /DZUHQFH (%URZQ -DPHV / 5H\QROGV DQG Proprietary, Rolls Royce Allison.

9 ' :HOG LQJ DQG 3HHQLQJ 3URFHGXUH (YDOXDWLHQ (May 2007). 5 0F*UDQ Classified, NAVSEA.

8 ' ,QYHVWLJDWLRQ RI 7KHUPDO 6SUD\ & RDWLQJV \$SSOLHG 8VLQJ D +L 6WDLQOHVV 6WHHO & RDWLQJV ' 5R\ 7 5 0F*UDQQ ,DQ ' +DUULV DQ 2000).

7 ' 0RWLRQ 6\ VWHP 6WUHV V \$QDO\VLV 63,5 6WUHV D +L WQHUVKL 3URMHFW 1RV)LQDO 5HSRUW IRU '2521 3UHFLVLRQ 6\ VW Citteranjan Sahay, and Roy T.R. McGrann (May 1999).

6 ' 5HVLGXDO 6WUHV VHV LQ 3ODVPD DQG +92) & RDWLQJ & DQGLGDWHV R. Shadley, Edmund F. Rybicki, and Roy T.R. McGrann, Report for Volvo Aero Corporation, Gunnar Ingesten, Project Director, Trollhättan, Sweden, (July, 1998).

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