CURRICULUM VITAE
OREGON HEALTH & SCIENCE UNIVERSITY

NAME	Garth Tormoen	DATE	28 Jan 2013

PRESENT POSITION AND ADDRESS

Academic Rank:	**MD/PhD Student**
Department	**Biomedical Engineering**
Professional Address:	**CH13B; 3303 SW Bond Ave, Portland, OR 97239**
E-Mail Address:	**tormoeng@ohsu.edu**

I. EDUCATION

Undergraduate and Graduate:

B.S.	Materials Science and Engineering; June, 2002; Michigan Technological University, Houghton, MI
M.S.	Materials Science and Engineering; June, 2004; Michigan Technological University, Houghton, MI
M.D./Ph.D.	Biomedical Engineering; *In progress*; Oregon Health & Science University, Portland, OR

II. PROFESSIONAL EXPERIENCE

DEC 2004 – JUL 2008	Research Engineer Department of Mechanical Engineering Southwest Research Institute
JUN 2003 - AUG 2003	Graduate Research Fellow Materials Science Division Argonne National Laboratory
JUN 2002 – AUG 2002	Summer Research Intern Microelectronics Division International Business Machines (IBM)

III. SCHOLARSHIP

Area(s) of Research/Scholarly Interest:

Metastatic disease, which includes cancer associated thrombosis, accounts for the vast majority of cancer deaths. Preventing thrombosis would improve survival in most cancers. My research is focused on understanding the interplay between cancer cells and blood coagulation, as cancer cells must enter, passage through, and exit the circulatory system in order to establish distant metastases. Extensive data suggests that cancer cells themselves are procoagulant, and my research is focused on characterizing the unique coagulation kinetics for a procoagulant cancer cell circulating in the blood. My ultimate goal is to identify prognostic biomarkers for thrombosis in patients with cancer, and translate these biomarkers to useful clinical assays to allow personalized anticoagulant prophylaxis for patients with cancer.

Grants and Contracts:

Grant Title: OHSU - Medical Scientist Training Program
PI: Peter S. Rotwein
Agency: National Institute of Health – 1T32GM067549-01

Period of support: 1-SEP-08 – 30-JUN-09
Percent effort and role on project: 100%; Trainee

Grant Title: OHSU – MD/PhD Program
PI: David Jacoby
Agency: OHSU
Period of support: 1-JUL-09 – 30-JUN-11
Role on project: 100%; Trainee

Grant Title: Training Program in Dermatology
PI: Molly Kulesz-Martin
Agency: National Institute of Health-NCI T32-CA106195
Period of support: 1-JUL-11 – 30-JUN-12
Percent effort and role on project: 100%; Trainee

Grant Title: Kinetic mechanisms of circulating tissue factor
PI: Garth Tormoen
Agency: American Heart Association; 12PRE11930019
Period of support and Total Direct Costs: 1-JUL-12 – 30-JUN-14;
Percent effort and role on project: 100%; Predoctoral Research Fellow

Publications/Creative Work:

Peer-reviewed

1. Beach ER, **Tormoen GW**, Drelich J, Han R. "Pull-off force measurements between rough surfaces by atomic force microscopy". *J Colloid Interface Sci*. 2002; 247: 84-99.
2. ER Beach, **G Tormoen**, J Drelich. "Pull-off forces measured between hexadecanethiol self-assembled monolayers in air using an atomic force microscope: analysis of surface free energy". *J Adhesion Sci Technol*. 2002; 16: 845-68.
3. **GW Tormoen,** J Drelich, ER Beach. "Analysis of atomic force microscope pull-off forces for gold surfaces portraying nanoscale roughness and specific chemical functionality". *J Adhesion Sci Technol*. 2004; 18: 1-18.
4. Drelich J, **Tormoen GW**, Beach ER. "Determination of solid surface tension from particle-substrate pull-off forces measured with the atomic force microscope". *J Colloid Interface Sci*. 2004; 280: 484-97.
5. **GW Tormoen,** J Drelich. "Deformation of soft colloidal probes during AFM pull-off force measurements: elimination of nano-roughness effects". *J Adhesion Sci Technol*. 2005; 19: 181-98.
6. **GW Tormoen,** J Drelich, J Nalaskowski. "A distribution of AFM pull-off forces for glass microspheres on a symmetrically structured rough surface". *J Adhesion Sci Technol*. 2005; 19: 215-34.
7. **G Tormoen,** J Burkett, JF Dante, N Sridhar. "Monitoring the adsorption of volatile corrosion inhibitors in real time with surface-enhanced raman spectroscopy". *Corrosion*. 2006; 62: 1082-91.
8. A Anderko, N Sridhar, MA Jakob, **G Tormoen**. "A general model for the repassivation potential as a function of multiple aqueous species. 2. Effect of oxyanions on localized corrosion of Fe-Ni-Cr-Mo-W-N alloys". *Corrosion Science*. 2008; 50: 3629-47.
9. Sridhar N, **Tormoen G**, Hackney S, Anderko A. "Effect of Aging Treatments on the Repassivation Potential of Duplex Stainless Steel S32205". *Corrosion*. 2009; 65: 650-62.
10. **G Tormoen,** N Sridhar, A Anderko. "Localised corrosion of heat treated alloys Part 1 - repassivation potential of alloy 600 as a function of solution chemistry and thermal aging". *Corrosion Engineering, Science and Technology*. 2010; 45: 155-62. Awarded the 2011 Institute of Metals, Materials and Mining Guy Bengough award for a paper published by the Institute which makes an outstanding contribution to the subject of corrosion and degradation of all types of materials and their control.
11. A Anderko, N Sridhar, **G Tormoen**. "Localised corrosion of heat-treated alloys Part II Predicting grain boundary microchemistry and its effect on repassivation potential". *Corrosion Engineering, Science and Technology*. 2010; 45: 204-23.

12. McCarty OJ, Conley RB, Shentu W, **Tormoen GW**, Zha D, Xie A, Qi Y, Zhao Y, Carr C, Belcik T, Keene DR, de Groot PG, Lindner JR. "Molecular imaging of activated von Willebrand factor to detect high-risk atherosclerotic phenotype". *JACC Cardiovasc Imaging*. 2010; 3: 947-55. PMCID: PMC3204804.
13. Berny-Lang MA, Aslan JE, **Tormoen GW**, Patel IA, Bock PE, Gruber A, McCarty OJ, "Promotion of experimental thrombus formation by the procoagulant activity of breast cancer cells". *Phys Biol*. 2011; 8(1) 015014 (1-7). PMCID: PMC3209705.
14. Aslan JE, **Tormoen GW**, Loren CP, Pang J, McCarty OJT, "S6K1 and mTOR regulate Rac1-driven platelet activation and aggregation". *Blood*, 2011; 118(11): 3129-36. PMCID: PMC3175787.
15. **Tormoen GW**, Rugonyi S, Gruber A, McCarty OJT, "Role of carrier number on the procoagulant activity of tissue factor in blood and plasma". *Phys Biol,* 2011; 8: 066005(1-7). PMCID: PMC3529913.
16. Lee AM, **Tormoen GW**, Kanso E, McCarty OJT and Newton PK (2012) Modeling and simulation of procoagulant circulating tumor cells in flow. *Front. Oncol.* 2012; 2: 108(1-9). PMCID: PMC3442195.
17. **Tormoen GW**, Cianchetti FA, Bock PE and McCarty OJT (2012) Development of coagulation factor probes for the identification of procoagulant circulating tumor cells. *Front. Oncol.* 2012; 2: 110(1-12). PMCID: PMC3434442.
18. Larson MK, **Tormoen GW**, Patel IA, Hjelmen CE, Ensz NM, McComas LS, McCarty OJ. Exogenous modification of platelet membranes with the omega-3 fatty acids EPA and DHA reduces platelet procoagulant activity and thrombus formation. Resubmitted to *American Journal of Physiology: Cell Physiology*: 2013 Feb; 304(3):C273-9.
19. Liu YN, Davidson BP, Yue W, Belcik T, Xie A, Inaba Y, McCarty OJ, **Tormoen GW**, Zhao Y, Ruggeri ZM, Kaufmann BA, Lindner JR. Inhibition of NADPH oxidase with apocynin in advanced atherosclerosis prevents inflammatory progression and platelet adhesion. *Circulation: Cardiovascular Imaging* 2012, Dec: *in Press*.
20. PS-OC Cell-Line Project Team and the PS-OC Network. A physical sciences network characterization of nonmalignant and metastatic cells. *Scientific Reports* 2013, Jan: *in Press*.

Under Review

1. Aslan JE, Itakura A, Haley KM, **Tormoen GW**, Loren CP, Baker SM, Pang J, Chernoff J, McCarty OJ. p21-activated kinase (PAK) signaling coordinates GPVI-mediated platelet aggregation, lamellipodia formation and aggregate stability under shear. Responding to reviewers, *Arterioscler Thromb & Vasc Biol*. (Jan, 2013).
2. **Tormoen GW**, Khader A, Gruber A, and McCarty OJ. Levels of blood coagulation factors IX and X control coagulation kinetics in an in vitro model of circulating tissue factor. Responding to reviewers, *Physical BIology*. (Jan, 2013).

Reviews, Editorials and Book Chapters

1. **Tormoen GW**, Haley KM, Levine RL, McCarty OJ. Do circulating tumor calls have a role in coagulation and thrombosis? *Frontiers in Oncology* 2012; 2: 115(1-5). PMCID: PMC3437466.
2. Colace TV, **Tormoen GW**, McCarty OJ, Diamond SL. Microfluidics and coagulation biology. *Annual Review of Biomedical Engineering* 2013 Jan: *in Press*.

Selected Abstracts

1. **Tormoen GW**, Cianchetti F, McCarty OJ, "Development of Coagulation Factor Probes for the Identification of Procoagulant Cancer Cells", OHSU Knight Cancer Institute Annual Retreat, Skamania, WA (NOV, 2012).

2. **Tormoen GW**, Cianchetti F, McCarty OJ, "Development of Coagulation Factor Probes for the Identification of Procoagulant Cancer Cells", Physical Sciences Oncology Center site visit, La Jolla, CA (OCT, 2012).

3. **Tormoen GW** and McCarty OJ, "Characterizing the role for coagulation factor concentrations on susceptibility to CTC-induced coagulation, *3rd Annual National Cancer Institute Physical Sciences – Oncology Center Conference*, Tampa, FL (APR, 2012).

4. **Tormoen GW** and McCarty OJ, "Characterizing the role of blood coagulation factors on cancer cell migration", *3rd Annual National Cancer Institute Physical Sciences – Oncology Center Conference*, Tampa,

FL (APR, 2012).

5. **Tormoen GW**, Gruber A and McCarty OJ, “Spatial Separation of Tissue Factor-Carriers Modulates Procoagulant Activity of Circulating Tissue Factor”, Annual Meeting of the American Society for Hematology, San Diego, CA (DEC, 2011).

6. **Tormoen GW** and McCarty OJ, “Regulatory mechanisms of the procoagulant activity of circulating tumor cells”, Physical Sciences-Oncology Center TSRI site visit, La Jolla, CA (OCT, 2011).

7. **Tormoen GW**, Gruber A and McCarty OJ, “Procoagulant Activity of Intravascular Tissue Factor is Dependent on Carrier Burden”, XXIIIrd Congress of the International Society on Thrombosis and Haemostasis, Kyoto, JP (JUL, 2011).

8. **Tormoen GW**, Berny MA, Aslan JE and McCarty OJ, “Characterization of the Procoagulant Activity of Tumor Cells”, Physical Sciences-Oncology Center TSRI site visit, La Jolla, CA (OCT, 2010).

9. **Tormoen G**, Dante J and Sridhar N, “Correlation of In-Situ VCI Adsorption Monitoring with Real-Time Corrosion Rate Measurements” NACE International CORROSION Meeting, Nashville, TN (MAR 2007).

10. **Tormoen G** and Drelich J, “Roughness Considerations for Adhesion Characteristics at the Nanoscale”, Society of Mining Engineering Annual Meeting, Denver, CO (FEB 2004).

11. Buckmaster KL, Dziedzic JJ, Masters MA, Poquette BD, **Tormoen GW**, Swenson D, Henderson DW, Gosselin T, Kang SK, Shih DY and Puttlitz K, TMS 2003 Fall Meeting, Chicago, IL (NOV 2003).

Invited Talks:

1. "Blood – CTC interactions: Strangers in a Familiar Land", NCI PS-OC site visit. The Scripps Research Institute, La Jolla, CA (OCT, 2012).

2. “Thrombosis and Malignancy: Background and Current Efforts“, The Scripps Research Institute, La Jolla, CA (AUG, 2010).

3. “Procoagulant activity regulating mechanisms of circulating tissue factor”, OHSU MD/PhD Annual Retreat, Timberline Lodge, OR (SEP 2011).

Honors & Awards

1998 National Academic Scholarship, Michigan Technological University
2001 William P. Woodside Scholar, ASM International
2003 TMS Materials Processing & Manufacturing Division Design Contest Winner
2007 R&D 100 Award, R&D Magazine
2008 MSTP Scholarship, Oregon Health & Science University
2010 U.S. Patent 7,841,249
2011 Institute of Materials, Minerals and Mining Guy Bengough Award
2011 ISTH New Investigator Award
2011 ARCS Scholar
2013 AHA Joel Drillings Award for Cardiovascular Research

IV. SERVICE

A. Membership in Professional Societies:

Tau Beta Pi
Alpha Sigma Mu
American Society of Metals
The Metals, Minerals and Materials Society
American Medical Student Association
American College of Physicians
American Physician Scientist Association
American Heart Association

B. Reviewer for Scientific Journals

Journal of Undergraduate Materials Research

V. TEACHING:

A. Courses Taught

Lecturer, ME461/561, Biomaterials (University of Portland), Fall 2012
Laboratory Instructor, MY 5580, Introduction to Scanning Probe Microscopy (Michigan Tech), Fall 2003

B. Undergraduate Research Mentor

1. Jayme Burket (2006): Biomedical Engineering graduate student at Cornell University (Ithaca, NY)
2. Ayesha Khader (2012): Chemical Engineering undergraduate student OSU (Corvallis, OR)
3. Olivia Recht (2013): Spanish/Biology undergraduate student Smith College (Northampton, MA)