



**NORTH SEATTLE  
COLLEGE**

*One of the Seattle Colleges*

**MATH & SCIENCE DIVISION**

**Meeting Minutes**

Nanotechnology TAC Meeting  
Thursday, December 8, 2016  
4:00– 5:30 PM  
President's Board Room  
North Seattle College

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**MEMBERS PRESENT**

Alicia Cohn, *KEON Research*  
Dan Ratner, *University of Washington* – **Committee Chair**  
Frank Garcia, *RJC Enterprises, LLC*  
Juan Lopez, *Boeing*  
Leah Riley, *PolyDrop*  
Mark Helsel, *Microvision*  
Sarah McQuaide, *Silicon Designs*  
Qiuming Yu, *University of Washington*

**NSC MEMBERS PRESENT**

Brian Rucci  
Hrudya Nair  
Jim Hyder  
Joe Amann  
Kristine Schroeder  
Tracy Russell

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I. Introductions

- The meeting was called to order at 4:00 PM. Each person introduced themselves and company/college/university they represented

II. Approval of Minutes

- Reviewed minutes from the June 9, 2016 meeting
- Minutes were approved as written

III. NSC Office of Advancement

- Tracy Russell made a presentation on the NSC Office of Advancement
- The Ed. Fund is the none profit arm of the Office of Advancement
- The Office of Advancement engages people in 18 ways including nonfinancial support
- Nanotechnology is one of nine Ed. Fund pathways

IV. Updates from North Nanotech Program & SHINE

- Kristine Schroeder introduced SHINE's new Lab Technician, Joe Amann
- Current enrollments were shared with the committee
  - NANO 101 (Fall 2016) – 18 students will complete
  - MSC 101 (Fall 2016) – 14 students will complete
  - 7 different Fall/Winter Internship Sites
- STEM Career Fair Recap
  - 1st Annual STEM Career Fair at NSC: Nov. 15, 2016
  - 16 Companies (30 company representatives)
  - 168 Confirmed Attendees
  - 83% of the companies were likely to attend another event, and 67% said they met one or more students they planned on interviewing
- NSF Grant – Industry-Driven Internship Development Program
  - SHINE requested \$869,104 over 3 years (2017-2020) for an Industry-Driven Internship Development (ID)<sup>2</sup> Project
    - SHINE is hoping to hear a response by the end of February

V. Program and Curriculum Review

- Course change considerations
  - The committee thought it would be a good idea to add an “or” to the AAS-T for students to take CHEM 121 “or” CHEM 161, 162, 163
  - Need to make it more explicit on what track the student wants to take (i.e. 4-year transfer, workforce), so that students know what classes to take

- ASTM Alignment - Uniform Standard Guides for Workforce Education in Nanotechnology
  - There are now Nanotechnology ASTM standards:
    - Nanotechnology Characterization
    - Nanotechnology Pattern Generation
    - Nanotechnology Infrastructure
    - *Nanotechnology Health & Safety (Currently creating exam)*
    - *Material Properties and Scale (in process)*
    - *Materials Synthesis and Processing (in process)*
  - Many committee members were unaware of the six new standards, but said they would be valuable
    - An action item for Jim Hyder is to detail the skill sets for each standard and communicate that to the committee
- Industry Survey - Review Skills and Internship Responses
  - Student Worksite Evaluation Data (n=13)
    - All responses were excellent or very good (*complete data is available upon request*)
    - 100% of students would recommend their site to another student
  - Intern Performance Evaluation Data (n=15)
    - All responses were excellent or very good (*complete data is available upon request*)
- Stackable Certificates (NSC Nano Lab Instruments)
  - The Nano Lab needed a competency standard, which students could be certified against
  - Implementation of certificates
    - Phase I [Completion Date: Dec 9, 2016]
      - SEM - Operations
      - Sputter Coater – Startup/Shutdown, Operations
      - AFM – Startup/Shutdown, Operations
      - Profilometer - Startup/Shutdown, Operations
      - LSCM - Startup/Shutdown, Operations
    - Phase II [Completion Date: Feb 28, 2017]
      - 3D Printer
      - Laser Cutter
      - Carbon Coater
      - 4-Point Probe

VI. State of the Industry

- Workforce Status Updates
  - The UW WNF will have limited productivity for the next few months because of contraction, will hopefully be completed in the next year
  - Silicon Designs was very happy with the intern they got from the NSC Nano Program
  - Juan from Boeing will begin to make connects concerning internships at Boeing
  - PolyDrop was extremely happy with their intern and she was recently hired on as a full time employee
    - PolyDrop was recently awarded a half million dollar grant from Washington State Dept. of Commerce and will be looking to hire interns in the future

VII. Adjournment

- Meeting was adjourned at 5:30 PM