Xavier University-New York University/PREM

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Overview of Xavier University

Located in New Orleans (crescent city), LA

Founded by St Katharine Drexel (1925)

Private liberal arts institution (teaching University)

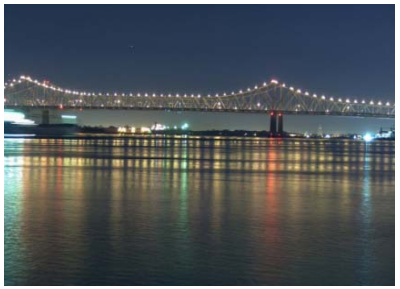
Student population (~3500 Students)

Predominantly Black (70%) (HBCU)

Majority of students from the New Orleans area (60%)

University has 2 colleges

- College of arts and sciences (7 departments)
- College of pharmacy



About The Chemistry Department

25 full time faculty

Over 700 chemistry majors (< 1% ACS certified)

Over 10 million dollars in grant funding (*NSF, NIH, DOD*)

State-of the art equipment for research (*FE-SEM, AFM*)

Ranked by the ACS as one of the top 25 universities in awarding BS degrees in chemistry (*US Dept. of Education*)

Rank first nationally in the number of African American students earning a chemistry degree

A nationally recognized and award winning chemistry club affiliated with the ACS

Science Building

FE-SEM Hitachi

ACS-Chemistry club

Xavier – NYU/MRSEC proposed research

laterials for energy Storage – (L.Meda, M.Ward, M. Weck)

evelopment of polymeric, solid electrolytes, composite athode materials for lithium-ion rechargeable batteries.

agnetic assemblies –V. Kolesnichenko, J. Zhang, D. Pine, Canary, K. Kirshenbaum, M. Walters, A. Kent

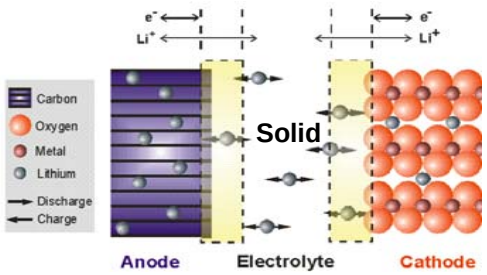
ocus on nanometer-scale super-paramagnetic iron oxide articles surrounded by non polymeric biocompatible rganic shells; provide greater mobility and diffusion for the naging agent.

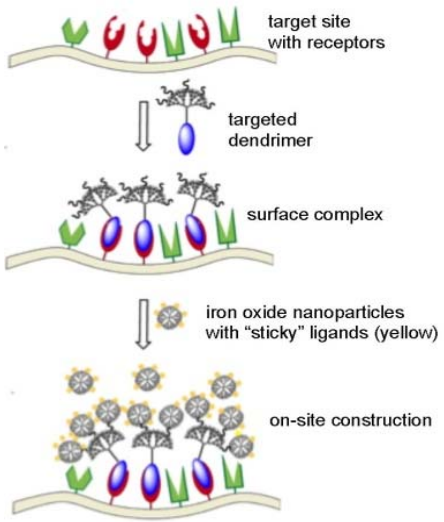
orce measurements – (A. S. Meya, J. Brujic, D. Grier)

vestigate the surface morphology of cancer stem cells nd interaction forces between specific molecules nmobilized on the tip and the cell surface.

olymorphic materials – B. Bilyeu, C. Stevens, M. Ward

olymorphic transitions in materials

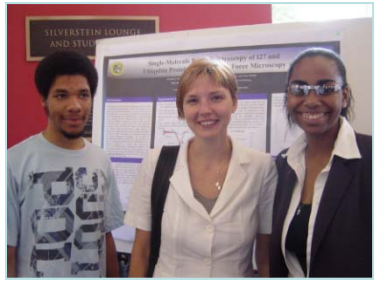




Conceptual description of on-site construction of superparamagnetic

Relationship with the partner center

Established collaboration between A. Sunda-Meya (Xavier, physics) and J. Brujic, D. Grier (NYU)



Existing two-way student exchange program for outstanding undergraduates

Summer Scholar-in-Residence at NYU); Mike Adams (chemistry), several biology and math professors

Mutual interest in materials research and experimental investigation of nanoscale structures

Create a pipeline of underrepresented ***undergraduates*** who are well-trained and qualified for graduate school with focus on materials research

Relationship between Xavier and NYU

Students perform research at NYU during summer.

Xavier faculty members accompany students (faculty/student pair).

NYU graduate students will be paired with research teams at Xavier, including a one-month visit to Xavier that will ensure project continuity.

Provides an important mentorship opportunity for NYU graduate students, in both the NYU and Xavier environment.

To foster the collaborative long-term goals of Xavier and NYU, the FRN will host a biannual technical symposium during the Summer Scholar-in-Residence including faculty from other PREM institutions.

Education and outreach efforts

mbined plan 3+2 engineering program in chemical, medical, mechanical engineering, between Xavier and NYU

mmer Bridge Program for entering freshman students weeks)

- *Mathematics* (precalculus or calculus)
- Non-class days focus on research
- Working closely with their research supervisor
- Overview of Intro to engineering and science

rriculum Development: Introduction to Science and Engineering, Materials aracterization, Advanced Materials Synthesis Lab

mmer Science Academy (SSA): hands-on materials research-related activities high school students in 11th grade

erican Chemical Society Chemistry Club Program: PREM take part in these ograms

ncreasing underrepresented groups in materials research

evelop a Materials Science track in the ACS-certified hemistry Program

rly exposure to undergraduate research (*freshman year*)

ecruitment (*J. Watson, M. Jones, J. Jones, S. Riddle, A. angerfield, X. Williams*)

ovide summer research experiences (Xavier-NYU Faculty udent Pair)

ovide scholarships for qualified PREM students

ssign each freshman and upper level students to a PREM entor

equired attendance to departmental seminar

esearch presentation at national meetings (MRS, ACS and CS)

PREM Students

Scholarships