ACCOMPLISHMENTS FOR 2012 AND GOALS FOR 2013

Department of Research

This report includes following information:

A. Departmental Accomplishments
   1. Table of Organization
   2. 2012 HackensackUMC Research Grants Portfolio
   3. 2011 – 2012 Grant Submissions Trend (comparison by departments)
   4. NIH Rankings of Independent Hospitals
   5. Programs developed and expanded

B. Research Accomplishments
   1. Publications and Abstracts of department members (research scientists)

C. 2013 Action Plan
2. **2012 HackensackUMC Research Grants Portfolio**

- Researchers at Hackensack University Medical Center have 12 federally funded research grants (NIH, DOD, CDC) as well as several foundation grants.
- Our Research grants portfolio below outlines grant activity by department, investigator’s name, grant title, funding agency, and total amount awarded for fiscal year 2012.

<table>
<thead>
<tr>
<th>PI Name</th>
<th>Department</th>
<th>Grant Title</th>
<th>Funding Agency</th>
<th>Total Awarded Amount (current budget period)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Robert Korngold</td>
<td>Cancer Center</td>
<td>T cell repertoire of GVHD and GVTE</td>
<td>NIH/NCI</td>
<td>$388,635.00</td>
</tr>
<tr>
<td>Jenny Zilberberg</td>
<td>Cancer Center</td>
<td>Stable shRNA-mediated gene silencing (NCE)</td>
<td>NIH/NHLBI</td>
<td>$220,125.00</td>
</tr>
<tr>
<td>Mu Liancai</td>
<td>Research</td>
<td>Anatomical specializations of pharynx</td>
<td>NIH/NIDCD</td>
<td>$319,454.00</td>
</tr>
<tr>
<td>Daniel Sepkovic</td>
<td>Research</td>
<td>Efficacy of preventive vaccines in an HPV</td>
<td>NIH/NCI</td>
<td>$350,823.00</td>
</tr>
<tr>
<td>Sujatha Iyengar</td>
<td>Research</td>
<td>Does HIV Enter Doomed Cell (NCE)</td>
<td>NIH/NIAID</td>
<td>$220,125.00</td>
</tr>
<tr>
<td>Sujatha Iyengar</td>
<td>Research</td>
<td>Rock Inhibitor suppression of GVHD</td>
<td>NIH/NIAID</td>
<td>$220,125.00</td>
</tr>
<tr>
<td>Stacy Zamudio</td>
<td>OB/GYN</td>
<td>Evolved Placental Response to Hypoxa</td>
<td>NIH/NICHHD</td>
<td>$243,275.00</td>
</tr>
<tr>
<td>Nick Illsley</td>
<td>OB/GYN</td>
<td>A murine model for placental metabolic</td>
<td>NIH/NICHHD</td>
<td>$92,745.00</td>
</tr>
</tbody>
</table>

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<tr>
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<th>Grant Title</th>
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<th>Total Awarded Amount (current budget period)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Herman Morchel</td>
<td>ETD</td>
<td>Development &amp; Evaluation telesonography</td>
<td>DOD/Cipher</td>
<td>$171,549.00</td>
</tr>
<tr>
<td>Joseph Feldman</td>
<td>ETD</td>
<td>Traumatic Brain Injury</td>
<td>DOD/Cipher</td>
<td>$188,670.00</td>
</tr>
<tr>
<td>Joseph Feldman</td>
<td>ETD</td>
<td>FullThickness Wound Protocol</td>
<td>DOD/Cipher</td>
<td>$106,176.00</td>
</tr>
<tr>
<td>Joseph Feldman</td>
<td>ETD</td>
<td>Hyperspectral Imaging Technology</td>
<td>DOD/Cipher</td>
<td>$121,124.00</td>
</tr>
</tbody>
</table>

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<tr>
<th>PI Name</th>
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<th>Grant Title</th>
<th>Funding Agency</th>
<th>Total Awarded Amount (current budget period)</th>
</tr>
</thead>
<tbody>
<tr>
<td>David Siegel</td>
<td>Cancer Center</td>
<td>Ancillary Tissue Study</td>
<td>MMRC</td>
<td>$80,000.00</td>
</tr>
<tr>
<td>Yukiko Kimura</td>
<td>Pediatrics</td>
<td>CARRA - standardized treatment plans JIA</td>
<td>Arthritis Found</td>
<td>$100,000.00</td>
</tr>
<tr>
<td>Suzanne Li</td>
<td>Pediatrics</td>
<td>Developing tools for Localized scleroderma</td>
<td>Arthritis Found</td>
<td>$100,000.00</td>
</tr>
<tr>
<td>Yukiko Kimura</td>
<td>Pediatrics</td>
<td>Standardized consensus treatment</td>
<td>ACR Foundation</td>
<td>$75,000.00</td>
</tr>
<tr>
<td>Caroline Hu</td>
<td>Pediatrics</td>
<td>Integrative epigenomic approach to gene</td>
<td>Hyundai HOW</td>
<td>$125,000.00</td>
</tr>
<tr>
<td>Danny Marain</td>
<td>Pediatrics</td>
<td>Music therapy study</td>
<td>Planetree</td>
<td>$4,000.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PI Name</th>
<th>Department</th>
<th>Grant Title</th>
<th>Funding Agency</th>
<th>Total Awarded Amount (current budget period)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helio Pedro</td>
<td>Pediatrics</td>
<td>Genetic Inborn errors of metabolism</td>
<td>NYMAC</td>
<td>$4,725.00</td>
</tr>
</tbody>
</table>

**TOTAL AMOUNT** | **$3,131,551.00**
3. **2011 - 2012 Grant Submissions Trend (comparison by departments)**

- The Department of Research submitted 27 grants in 2012 with over $11 million dollars in submissions.
- Below is a two year comparison of total grants submitted based on the department, quarterly submissions, and the total dollar amount.

<table>
<thead>
<tr>
<th></th>
<th>2011 Submissions ($)</th>
<th>2012 Submissions ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>QTR 1</td>
<td>$ 1,994,951</td>
<td>QTR 1</td>
</tr>
<tr>
<td>QTR 2</td>
<td>$ 842,200</td>
<td>QTR 2</td>
</tr>
<tr>
<td>QTR 3</td>
<td>$ 2,007,662</td>
<td>QTR 3</td>
</tr>
<tr>
<td>QTR 4</td>
<td>$ 1,390,437</td>
<td>QTR 4</td>
</tr>
<tr>
<td>YTD TOTAL</td>
<td>$ 6,235,250</td>
<td>YTD TOTAL</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DEPARTMENT</th>
<th>TOTAL</th>
<th>DEPARTMENT</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research (8 grants)</td>
<td>$ 2,027,976</td>
<td>Nursing (1 grant)</td>
<td>$ 6,993,896</td>
</tr>
<tr>
<td>Surgery (1 grant)</td>
<td>$ 1,500,396</td>
<td>Research (8 grants)</td>
<td>$ 1,965,197</td>
</tr>
<tr>
<td>Pediatrics (12 grants)</td>
<td>$ 741,383</td>
<td>Pediatrics (7 grants)</td>
<td>$ 1,031,210</td>
</tr>
<tr>
<td>Cancer Center (6 grants)</td>
<td>$ 832,200</td>
<td>Cancer Center (8 grants)</td>
<td>$ 819,835</td>
</tr>
<tr>
<td>ETD (2 grant)</td>
<td>$ 774,160</td>
<td>OB/GYN (1 grant)</td>
<td>$ 88,050</td>
</tr>
<tr>
<td>OB/GYN (3 grants)</td>
<td>$ 299,135</td>
<td>Cardiology (1 grant)</td>
<td>$ 69,202</td>
</tr>
<tr>
<td>Medicine (2 grant)</td>
<td>$ 30,000</td>
<td>Surgery (1 grant)</td>
<td>$ 44,340</td>
</tr>
<tr>
<td>Deirdre Imus (1 grant)</td>
<td>$ 30,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL SUBMISSIONS (34)</strong></td>
<td><strong>$ 3,709,404</strong></td>
<td><strong>TOTAL SUBMISSIONS (27)</strong></td>
<td><strong>$ 11,011,730</strong></td>
</tr>
</tbody>
</table>
4. NIH Rankings of Independent Hospital

- The National Institute of Health (NIH) is the largest funder of biomedical research in the United States and each year the NIH compiles a list of grants awards and rankings data according to Institution type (research institutes, independent hospital, domestic for-profits, etc).
- HackensackUMC is New Jersey’s top independent hospital recipient of NIH research funds. We ranked 46 out of 91 independent hospitals that received NIH funding for research during fiscal year 2012.
- Our NIH Rankings trend below outlines New Jersey hospitals rankings for fiscal year 2012 and HackensackUMC’s NIH rankings for the last 3 years.

<table>
<thead>
<tr>
<th>FY2012 NEW JERSEY HOSPITALS RANKINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Organization Name</strong></td>
</tr>
<tr>
<td>HACKENSACK UNIVERSITY MEDICAL CENTER</td>
</tr>
<tr>
<td>ST. BARNABAS MEDICAL CENTER</td>
</tr>
<tr>
<td>NEWARK BETH ISRAEL MEDICAL CENTER</td>
</tr>
<tr>
<td><strong>Total Amount Awarded to NJ Independent Hospitals</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HUMC NIH RANKINGS AND AWARD TRENDS 2010-2012</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fiscal Year</strong></td>
</tr>
<tr>
<td>Awarded Amount</td>
</tr>
<tr>
<td>Total Number of Independent Hospitals</td>
</tr>
<tr>
<td>HUMC’s NIH Ranking</td>
</tr>
</tbody>
</table>

- Our goal is to have more NIH funded research grants and rank within the top 25 Independent Hospitals that receive NIH funding.
5. Programs Developed and Expanded in 2012

Technology Transfer Office:

The purpose of our newly created Technology Transfer Office (TTO) is to provide comprehensive approach to intellectual property (IP) support and management from “conception to market place”.

The goal of TTO is to promote collaborative research relationships between HackensackUMC investigators and external Corporate Sponsors by providing assistance with:

- Negotiation and development of licensing agreements, collaborative research agreements, grant application submission, corporate and FDA compliance, intellectual property protection, biostatistician and protocol support.

As of 2012, HackensackUMC’s TTO has created, negotiated, and is in the process of finalizing six (6) agreements with outside commercial partners assuring a return of revenue to HackensackUMC on any future developed intellectual property.

Anthony A. del Campo, MBA, Executive Director of Commercial/Technology Ventures will be joining HackensackUMC’s Technology Transfer Office in February 2013.
B. Publications and Abstracts for Research Department Members

Robert Korngold, Ph.D.
Chairman – Department of Research
Senior Scientist – John Theurer Cancer Center
Hackensack University Medical Center
e-mail: rkorngold@hackensackUMC.org

Publications of manuscripts in peer reviewed journals


Abstracts: (poster or presentation)


Thea Friedman, Ph.D.
Associate Scientist – John Theurer Cancer Center
Hackensack University Medical Center
e-mail: tfriedman@hackensackUMC.org
Publications of manuscripts in peer reviewed journals


Abstracts: (poster or presentation)


David Schwartz, MD, Ph.D.
Senior Scientist – Department of Research
AND
Sujatha Iyengar, Ph.D
Assistant Scientist – Department of Research

Hackensack University Medical Center
e-mail: dschwartz@hackensackUMC.org
e-mail: siyengar@hackensackUMC.org

Publications of manuscripts in peer reviewed journals


Liancai Mu, MD, Ph.D.
Senior Scientist – Department of Research
AND
Stanislaw Sobotka, Ph.D
Associate Scientist – Department of Research

Hackensack University Medical Center
e-mail: lmu@hackensackUMC.org
e-mail: ssobotka@hackensackUMC.org
Publications of manuscripts in peer reviewed journals

**Sobotka S and Mu L.** Comparison of muscle force after immediate and delayed reinnervation using nerve-muscle-endplate band grafting. *Journal of Surgical Research* (accepted 24 February 2012, published online 15 March 2012).


**Sobotka S, Mu L.** Force recovery and axonal regeneration of the sternomastoid muscle reinnervated with the end-to-end nerve anastomosis. *Journal of Surgical Research* (accepted November 2, published online November 28, 2012).

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**Daniel Sepkovic, Ph.D.**  
**Associate Scientist – Department of Research**  
**Hackensack University Medical Center**  
e-mail: dsepkovic@hackensackUMC.org

Publications of manuscripts in peer reviewed journals


Abstracts (published or presented)

The 2012 CTRC-AACR San Antonio Breast Cancer Symposium, San Antonio TX

Telang NT, Li G, Katdare M, Sepkovic DW, Bradlow HL, Wong GYC. Palindrome Liaisons, Montvale, NJ; American Foundation for Chinese Medicine, New York, NY; Skin of Color Research Institute, Leroy T. Canoles Jr. Cancer Research Center, Hampton University, Eastern Virginia Medical School, Hampton, VA; David & Alice Jurist Institute for Research, Hackensack University Medical Center, Hackensack,
Stephen K. Suh, Ph.D.
Assistant Scientist and Director of Genomics and Biomarker Program
John Theurer Cancer Center
Hackensack University Medical Center
e-mail: ssuh@hackensackUMC.org

Publications of manuscripts in peer reviewed journals


Abstracts (published or presented)

May 2012: Biomarkers World Congress; Hodgkin’s lymphoma biomarkers to to predict clinical outcome

Dec. 2012: for American Society for Hematology; High resolution ChIP sequencing reveals novel bindings targets and prognostic role for SOX11 in Mantle cell lymphoma

Dec. 2012: for American Society for Hematology; Baseline Fibroblast Growth Factor-2 (FGF2) and Syndecan-1 (SDC1) Expression in Circulating CD15+/CD30+ Cells Correlate with Very Poor Outcome in Hodgkin Lymphoma

Stacy Zamudio, Ph.D.
Senior Scientist
Department of Maternal and Fetal Medicine
Hackensack University Medical Center
e-mail: szamudio@hackensackUMC.org
Publications of manuscripts in peer reviewed journals

Williams SF, Fik-Rymarkiewicz E, Zamudio S, Illsley NP. (2012) Protein synthesis in human syncytiotrophoblast is resistant to inhibition by hypoxia. Placenta, 33, 31-38


Ilsley NP, Zamudio S. Hypoxia inducible factor 1 (HIF-1)-directed diversion of carbon flux in murine trophoblast cells. Placenta 33(9) A92, 2012


Abstracts (published or presented)

Presented at the Society for Gynecologic Investigations 59th annual meeting March 19-21, 2012 and published as follows:

Ilsley NP, Leung CCK, Zamudio S (2102) Circulating IGF-I and placental type 1 IGF receptor in normal and gestational diabetic pregnancies. Repro. Sci. 19, 202A


Nicholas Illsley, Ph.D.
Senior Scientist
Department of Maternal and Fetal Medicine
Hackensack University Medical Center
e-mail: nillsley@hackensackUMC.org

Publications of manuscripts in peer reviewed journals

Williams SF, Fik-Rymarkiewicz E, Zamudio S, Illsley NP. (2012) Protein synthesis in human syncytiotrophoblast is resistant to inhibition by hypoxia. Placenta, 33, 31-38


Ilsley NP, Zamudio S. Hypoxia inducible factor 1 (HIF-1)-directed diversion of carbon flux in murine trophoblast cells. Placenta 33(9) A92, 2012
Abstracts (published or presented)

Presented at the Society for Gynecologic Investigations 59th annual meeting March 19-21, 2012 and published as follows:


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**Jenny Zilberberg, Ph.D.**  
**Instructor – John Theurer Cancer Center**  
**Hackensack University Medical Center**  
e-mail: jzilberberg@hackensackUMC.org

Abstracts (published or presented)


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**Themba Nyirenda, Ph.D.**  
**Research Biostatistician**  
**Department of Research**  
**Hackensack University Medical Center**  
e-mail: tnyirenda@hackensackUMC.org

Publications of manuscripts in peer reviewed journals


Dyme JL, Thampan A, Han EJ, **Nyirenda, TL**, Kotb ME, Shin HT: Propranolol for Infantile Hemangiomas: Initiating Treatment on an Outpatient Basis, Cardiology in the Young; (22) 424-429, 2012.

Abstracts (published or presented)

Abstract was presented as a moderated poster at the 30th World Congress of Endourology (4-8 September 2012) in Istanbul

“Cross Sectional Imaging Does Not Accurately Predict Tumor Size in Patients Undergoing Robot-Assisted Laparoscopic Partial Nephrectomy” Samay Jain MD, Themba Nyirenda PhD, Ihor Sawczuk MD, Mitchell Miller MD, Jennifer Yates MD, Ravi Munver MD.
D. 2013 Action Plan

The Research Department will continue to support development of research projects at the basic, translational and clinical levels.

The Clinical Research Development Office with Larry Lyons and Dr. Themba Nyirenda are always seeking new opportunities to help HackensackUMC investigators to initiate investigator driven studies and protocols by providing regulatory guidance and statistical input into the research design.

In addition, Krishna Shah, our Sponsored Program Manager, is always searching the government and foundation databases for potential research funding in all areas of clinical research that may be available to those physicians interested in developing their research programs.

The Research Department is also engaged in developing new High Impact Programs in connection with the Innovations Committee and in fulfillment of Strategic Plans for HackensackUMC to become an academic medical center.