Industrial Pharmacy Residency Program

Terms of Reference

ADMINISTERED BY

 LESLIE DAN FACULTY OF PHARMACY
 University of Toronto

With participating companies (Updated September 5, 2018):

Allergan Inc.
- Specialty in Market Access

Amgen Canada
- Specialty in Medical Information, Medical Communication/Education and Value, Access and Policy (VA&P)

Astellas Pharma Canada Inc.
- Specialty in Medical Affairs

Bayer Inc.
- Specialty in Market Access
- Specialty in Medical Affairs

Biogen Idec
- Specialty in Market Access

Celgene Inc.
- Specialty in Regulatory Affairs, Market Access and Medical Information

Eli Lilly Canada Inc.
- Specialty in Medical Information

Glaxo SmithKline Inc.
- Specialty in Medical Information and Drug Safety

Hoffmann-La Roche Ltd.
- Specialty in Medical Affairs
- Specialty in Product Development Regulatory

Novo Nordisk
- Specialty in Medical Affairs and Strategic Operations

Purdue Pharma (Canada)
- Specialty in Medical Information and Pharmacovigilance

Sanofi Genzyme
- Specialty in Medical Affairs

Sanofi Pasteur
- Specialty in Medical Affairs
- Specialty in Immunization Policy
- Specialty in Compliance
- Specialty in Marketing
The participating companies reserve the right to change or remove their offering of a residency program at any time. Applicants should check the most recent list of companies and positions on the website [https://pharmacy.utoronto.ca/programs-and-admissions/residency-programs/industrial-pharmacy-residency-program/](https://pharmacy.utoronto.ca/programs-and-admissions/residency-programs/industrial-pharmacy-residency-program/).

For further information, please contact:

Industrial Pharmacy Residency Program,  
144 College Street  
Leslie Dan Faculty of Pharmacy  
University of Toronto  
Toronto, Ontario, Canada, M5S 3M2

General contact: [Pharm.residency@utoronto.ca](mailto:Pharm.residency@utoronto.ca)

Andrea Cameron, B.Sc.Phm., MBA  
Associate Professor, Teaching Stream  
Residency Coordinator  
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Tel: (416) 946-3623

Website: [https://pharmacy.utoronto.ca/programs-and-admissions/residency-programs/industrial-pharmacy-residency-program/](https://pharmacy.utoronto.ca/programs-and-admissions/residency-programs/industrial-pharmacy-residency-program/)

Last updated 2018-Sept-05
I. DEFINITION AND PARTICIPATING COMPANIES

The Industrial Pharmacy Residency Program is a one year program, administered by the Leslie Dan Faculty of Pharmacy, University of Toronto in cooperation with Participating Pharmaceutical Companies as listed in this document and on the website.

II. ELIGIBILITY

1. Requirements: An applicant for the position of Industrial Pharmacy Resident must be a graduate pharmacist or a student in the final year of an undergraduate program leading to a recognized university degree in Pharmacy. *In the latter category, a successful applicant must complete all Pharmacy degree requirements before starting the residency.*

2. Requirements: Applicants for the specialty program will be required to have had some Pharmacy experience such as Industrial Pharmacy, Community Pharmacy, Hospital Pharmacy or Research.

3. Applicants from an approved university with a recognized university degree in Pharmacy must have graduated within five years of the last date for application.

4. Preferences: A license to practice Pharmacy is not mandatory, but recommended. Previous industrial experience is not required, but helpful. Applicants who have been employed more than three years in Industrial Pharmacy will ordinarily not be eligible for the program.
III. APPLICATION PROCEDURE

1. Applicant should review information provided by the companies, paying particular attention to the abilities and characteristics required. This information may be found at https://pharmacy.utoronto.ca/programs-and-admissions/residency-programs/industrial-pharmacy-residency-program/

2. Applicant must follow the Application Process. (See website.)

3. See website for Application process and specifics of how and where to submit information: Applicant will plan to submit the following information as part of the application process:

   a) a completed Application, including names of two references
   b) reasons for wanting to enroll in the Industrial Pharmacy Residency Program
   c) a resume/CV- ensure to include:
      - University education, including pre-pharmacy, pharmacy, dates and degrees
      - Honors, Awards, including academic and extra-curricular, with dates
      - Licensure status in pharmacy, including jurisdiction and date registered
      - Employment, including pharmacy-related positions and/or pharmacy program placements; list at least three most recent positions with dates
      - Organization membership, offices held: (Professional and others)
      - Other interests, accomplishments or activities in which you have participated
   d) a PDF copy of official or unofficial transcripts from University pharmacy program (verification may be required)
   e) an indication of the companies to which the applicant is applying

   The office of the Industrial Pharmacy Residency Program will assess each application package for completeness; if satisfactory, the Faculty will then securely provide the Applicant’s package to the designated representatives of those companies the applicant has selected.

   4. Steps 2 and 3 above must be completed between September 1 and October 15, 2018 for residencies beginning September 2019. Note: Applicants must submit requirements 3 a) to d) by Sept 30; applicants then choose the companies they wish to apply to by October 15, 2018.

   5. All complete applications will be forwarded to the companies during the last two weeks of October 2018.

   6. The applicant may include an optional cover letter to the companies to which the applicant has applied. It should include the rationale for seeking a residency at that particular
company.

7. Applicants selected for interviews will be contacted by the Company to schedule appointments during November and December 2018.

8. The Company Supervisor(s) will make offer-of-residency decisions and contact the applicants accordingly. This should occur on or before January 10, 2019.

9. If an applicant has not been contacted by a company by January 17, 2019 then the applicant should assume that his or her application was unsuccessful.

10. The successful applicant will sign a confirmation letter/agreement, provided by the Company Supervisor, that she or he has accepted a residency at the company.

11. The Company Supervisor will send an email to the Residency Coordinator to confirm the name(s) of applicants who have accepted positions. This step should occur on or before January 31.

12. The Faculty will contact successful residents asking for permission to publish their names in the Terms of Reference and to gather other relevant information.

13. Applicants normally start the residency on Sept 1st. A different date may be negotiated with the company but will not normally be beyond Sept 30th.

IV. STARTING DATES

Normally the Resident will begin the program no earlier than September 1 and no later than Sept 30, 2019.

The normal starting date for applicants who have completed all academic requirements is September following their acceptance by the participating company. An alternate starting date may be selected if agreeable by both the resident and the supervisor of the participating company, provided that the applicant has completed all academic requirements including examinations, clinical and other rotations, and projects.

V. OBJECTIVES

Upon completion of the Industrial Pharmacy Residency Program the resident will be able to:

• Apply a systematic approach to the investigation, analysis and response to an identified issue in Industrial Pharmacy
• Prepare and deliver audience–appropriate oral and written reports

Upon completion of the General Industrial Pharmacy Residency Program the resident will be able to:
• Demonstrate a thorough understanding of several facets of Industrial Pharmacy
• Describe the interrelationships among the various divisions within a pharmaceutical company
• Demonstrate in-depth understanding of at least one functional area within a pharmaceutical company

Upon completion of the Specialty Industrial Pharmacy Residency Program the resident will be able to:

• Demonstrate sufficient competence (knowledge and skills) in a (or two) specialized area(s) of Industrial Pharmacy
• Demonstrate a general understanding of many areas of Industrial Pharmacy

VI. PROGRAM

1. The intention of the general residency is to educate the resident about different areas of Industrial Pharmacy and to provide an opportunity to gain industrial experience. The specialty residency enables the resident to focus their activities on one or two particular areas of interest.

2. The general residency is composed of core rotations through many of the company's departments, thereby ensuring a broad exposure to all facets of Industrial Pharmacy. In addition, the resident will have the opportunity to carry out a major project which will develop the resident's research and investigative skills and the preparation and writing of reports. Finally, the resident will be able to develop their special areas of interest in conjunction with those of the Company in the elective portion of the program.

3. The program must have an encompassing base which will give the resident the requisite exposure to ensure that the year of special study has a definite and positive value. This value comes in part from the educational background and insight of the pharmacy resident and the overview which the resident receives in the areas of research, manufacturing, testing, regulatory affairs, marketing, sale of pharmaceuticals, medical information, post marketing surveillance, managed care, drug safety and pharmacoeconomics. A resident must understand how all these company activities interrelate and the impact they have on the various health professions. Furthermore, the program consists of practical experience and must be knowledge-based and problem-solving in dimension. The resident should finish the program with an appreciation of the relative merits of empirical and theoretical approaches to solving problems. Finally, the resident should complete the program with a tangible gain in skills and knowledge demonstrated by an ability to perform identifiable tasks.
### VII. INFORMATION FOR THE GENERAL RESIDENCY

**NOTE:** this general residency is not currently offered by participating companies.

In order to provide flexibility while ensuring an encompassing base for the program, a six month core consisting of at least six core rotations and a major project, plus six months of elective activities are required to be provided by the participating companies to form the twelve month program.

1. **OUTLINE OF PROGRAM**

<table>
<thead>
<tr>
<th>Time (months)</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Core Rotations</strong></td>
</tr>
<tr>
<td>0.5</td>
<td>Product formulation/reformulation -- development; accelerated stability.</td>
</tr>
<tr>
<td>0.5</td>
<td>Production -- purchasing raw materials; inventory control; scheduling; packaging; actual hands-on production.</td>
</tr>
<tr>
<td>0.5</td>
<td>Quality control -- raw materials; finished products; stability testing; self-inspection; recall program.</td>
</tr>
<tr>
<td>0.5</td>
<td>Product marketing -- strategy; programs.</td>
</tr>
<tr>
<td>0.5</td>
<td>Clinical research</td>
</tr>
<tr>
<td>0.5</td>
<td>Regulatory affairs</td>
</tr>
<tr>
<td>0.5</td>
<td>Drug information</td>
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<tr>
<td>0.5</td>
<td>Sales training</td>
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<tr>
<td>0.5</td>
<td>Managed care</td>
</tr>
<tr>
<td>0.5</td>
<td>Pharmacoeconomics</td>
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<tr>
<td></td>
<td>3.0 Major project</td>
</tr>
<tr>
<td><strong>6.0</strong></td>
<td>Total core program</td>
</tr>
<tr>
<td><strong>6.0</strong></td>
<td>Elective Activities</td>
</tr>
<tr>
<td><strong>12.0</strong></td>
<td>Total program</td>
</tr>
</tbody>
</table>
2. Some definitions of the above terms are provided in Appendix IV.

3. The Company Supervisor will provide the resident with a list of the Goals and Objectives for each core rotation and each elective activity. The department head or delegate in each of the above rotations will be requested by the Company Supervisor to provide a brief report on the involvement of the Resident in the department.

4. The Resident will submit reports in each rotation to the Company Supervisor and a final summary report along with the project report to the Core Committee. The Resident will be invited to attend the meetings of the Core Committee to evaluate and discuss his/her experience, and should be encouraged to make a presentation on his/her project. The department head or delegate of each rotation are encouraged to complete a form in order to provide feedback to the resident.

5. The purpose of the elective activities is designed to meet the special interests of the resident and can involve additional time in any one of the core rotations, or other areas of expertise offered by the Company. The companies which do not have Product Formulation, Production and Quality Control (in house), are encouraged to liaise with other participating companies in order that the resident have some exposure to these activities. Other items to be listed under elective activities may include Professional Affairs and Pharmaceutical Association work.

6. List of general residencies:
   ○ The General Residency is not currently being offered by any companies.

7. A check list of requirements for the residents in order that the program may be successfully completed on time is:

   General Program
   a. At least six core rotations each of at least two weeks duration
   b. Major project
   c. Elective activities
   d. Two meetings of the Core Committee
VIII. INFORMATION FOR THE SPECIALTY RESIDENCY

The Specialty Residency is 12 months in duration. The program empowers the specialty resident to focus activities in one or two particular departments, providing a unique opportunity to develop specialty skills in chosen area(s) of interest. These skills should become highly marketable in the pharmaceutical industry.

See the web site for current list of companies and specialty residencies offered.

The specialty resident participates in the daily activities of the area chosen in order to gain an understanding of the operations of that department as well as to achieve the necessary competencies in that position. Residents will choose projects offered by the supervisor, including a major project. Opportunities to attend seminars and conferences relating to both Pharmacy and the area of specialty are pursued.

A check list of requirements for the residents in order that the program may be successfully completed on time is:

Specialty Program

a. Full daily active educational participation in the selected area of the residency e.g. Market Access, Medical Information, etc.
b. Major Project
c. Two meetings of the Core Committee
IX. INFORMATION FOR BOTH GENERAL AND SPECIALTY RESIDENCIES

1. The Company Supervisor may send the resident to at least one conference a year paid for by the company.

2. The major project can be conducted within the Company or with a combination of the Company and the Faculty. The topic of the major project should be decided upon by January. A proposal for the major project must be written for presentation to the Core Committee. While the general supervision of the major project will be the responsibility of the Core Committee, individuals with required expertise from within the Company, the Faculty or both may assist or direct the Resident's project. The scope of the major project will only be limited by the expertise and resources available.

The major project should be written so that it can be presented at least to the Core Committee and, perhaps, to appropriate departments within the Company. The report should be reviewed by the Company Supervisor before presentation. If the report is confidential in nature, the Faculty liaison should sign a confidentiality agreement before presentation of the report. A suitable guide for preparing the report is provided in Appendix II. Additional supervision should be provided by the Faculty liaison.

Supervisors may wish to encourage their residents to take advantage of the following possible opportunities.

- A visit to the operations of the company in a foreign country, usually the USA
- Consider a rotation of 2-3 days at the Ontario Pharmacists Association's Drug Information and Research Centre, Contact phone 416-385-3472. For one month rotation an honorarium is required.
- Consider a one month rotation at Canadian Agency for Drugs and Technologies in Health (CADTH). Preference would be for a resident who would have completed a drug information rotation prior to coming to CADTH. Contact Marilyn Robertson at 613-226-2553 ext. 1250, email marilynr@cadth.ca

The Company Supervisor and or the Faculty Liaison should inform the Faculty Residency Coordinator of the successful completion of the program so that the certificate can be issued. The certificate attesting to a successful completion of the program, will be presented to the resident by the Core Committee and signed by appropriate representatives of the Company, usually the President and Supervisor and the Faculty, usually the Dean and Liaison. **In order to receive the certificate, the resident must complete all the work of the program and the major project within one year of commencing the program.**

The duration of the residency program is 12 months and the rotations and work of the major project must be completed within this time. Under extenuating circumstances the last one-month can be completed on a part time basis, over two months with prior approval of the Core Committee. The major project and core rotations must have already been completed before the request is sought. This applies to both general and specialty programs.
3. If the resident is not able to meet the requirement of completing all work of the program and the major project within one year of commencing the program, it will be necessary for the resident to make an appeal in writing. The appeal must be made during the last part of the one year residency to the Appeals Committee through the Residency Coordinator and provide reasons for seeking an extension. The Appeals Committee will consist of the Coordinator or designee, one Faculty Liaison and one Supervisor (these shall be different than the supervisor and liaison for the resident). The Appeals Committee can accept the appeal and state the date when the residency program must be completed or reject the appeal. If the appeal is rejected, the appeal can be re-submitted by the resident to the overall Program Committee, which usually meets in May, for a final decision.

4. Upon successful completion of the Industrial Pharmacy Residency Program the resident will receive a completion certificate from the Leslie Dan Faculty of Pharmacy and the participating company.

X. ADMINISTRATIVE INFORMATION FOR BOTH RESIDENCIES

1. During the first week of the resident's program, the resident should be introduced by the supervisor to the people who are responsible for the program in each of the core areas. It is highly recommended that small projects be planned for the resident in each of the core areas. This will enable the resident to achieve a greater depth of understanding, appreciation and interest in the various areas. This must be a learning experience for the resident. The resident should not be filling a staff position or asked to do relief work.

2. In addition to the general objectives described in Sec. V, it is highly recommended that at the beginning of the residency, a set of learning objectives be established for the resident, in consultation with the supervisors, in order to add more structure to the residency and serve as the basis for providing evaluation and feedback regarding the resident’s performance. Sample templates for setting the learning objectives and evaluation of resident’s performance can be found in Appendix III.

3. The resident's registration fee ($50) for the University will be paid by the Company or a combination of the Company and the resident. This allows the resident to use the University of Toronto Library.

4. The Company should endeavor to provide the resident with a permanent work station in order to give the resident a space in which to prepare reports and to facilitate communication.

5. The Company Supervisor should increase the awareness of the resident within the Company by such means as the Company newsletter, or other suitable means. It would also be beneficial for the current resident to meet with the new resident to help provide a increased understanding of the program.

6. The Core Committee oversees the residency at a particular company, and is composed of:

   Company Supervisor - at the participating company
   Faculty Liaison – appointed by the Dean
   Resident
It is essential that the Core Committee meet at least twice during the residency in order to help in the direction of the program and the project. The first meeting should take place within the first month of the resident's program and other meetings should be tentatively set at the first meeting. It is the responsibility of the Company Supervisor to ensure that the first meeting will be held early in the program so that the resident has an early contact with the Liaison.

7. The primary role of the Faculty Liaison is to serve as an advocate for the resident, and to assure that the goals of the residency are being met. In this role, the Faculty Liaison must meet early in the residency with the resident and Company Supervisor to establish a program for the resident. This should be consistent with the purpose and structure of the residency program.

8. The Faculty Liaison should be involved in the design and evaluation of the major project. Should the project be in an area different from the expertise of the Faculty Liaison, it is the responsibility of the Faculty Liaison to identify a member of the Faculty to become involved with the project design and evaluation.

9. At one meeting, the resident shall outline the major project and describe the intended research strategy. At this meeting, the Core Committee shall formally accept or reject the proposal. In addition, the progress of the resident is to be assessed. At the final meeting, the resident shall review the major project including describing the methodology, findings, solution/recommendations, and suggestions for possible future research related to the project findings. Although the written report may not yet be completed at this stage, the Core Committee shall formally accept or reject the major project as partial fulfillment of the requirements for the residency program, contingent upon receipt of the acceptable final project report. If the final meeting is positive and all other requirements have been met, the recommendation for awarding the certificate can be made.

10. Overall direction and guidance for the program will be provided by the Program Committee, composed of the following persons:
   - Dean of the Leslie Dan Faculty of Pharmacy, University of Toronto or designate
   - Industrial Pharmacy Residency Coordinator
   - Faculty Liaison Members
   - Representatives from the Companies - Full time Company Supervisor for each program
   - OPRA Representative
   with whom the ultimate responsibility for all aspects of the program rests. The Program Committee will meet annually (usually in May) to guide the Residency Program.

11. Should issues or problems arise during the residency, the resident should, in the first instance, attempt to resolve these with the Company Supervisor. If this fails, however, the resident should then seek the advice and direction of the Faculty Liaison to resolve the problem. Should the problem not be resolved in this manner, the resident should then contact the Industrial Pharmacy Residency Program Coordinator.
XI. ADDITIONAL INFORMATION FOR BOTH RESIDENCIES

1. Each company will provide a description of their specific Industrial Pharmacy Residency Program and the abilities and characteristics of the resident expected by the supervisor. This information will be no more than two pages long, and is to be submitted to the Faculty by September 1, so that this information is available to applicants.

2. Applicants are encouraged to apply to those companies which have interests similar to their own and to which they would like their applications sent, see appendix VI.

3. Information on housing in Toronto can be found at: https://www.studentlife.utoronto.ca/hs/about-us

4. Prospective residents are encouraged to talk to current residents about the program.

The following were residents for 2017-2018:

<table>
<thead>
<tr>
<th>Name</th>
<th>Company</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nathaniel Chow</td>
<td>Amgen Canada</td>
<td>6775 Financial Drive, Suite 100, Mississauga, ON L5N O4A</td>
</tr>
<tr>
<td>Jimmy Tieu</td>
<td>Amgen Canada</td>
<td>6775 Financial Drive, Suite 100, Mississauga, ON L5N O4A</td>
</tr>
<tr>
<td>Jacquelyn Lippa</td>
<td>Astellas Pharma Canada</td>
<td>675 Cochrane Dr. Suite 500, West Tower, Markham, ON L3R 0B8</td>
</tr>
<tr>
<td>Joann Ban</td>
<td>Biogen Idec Canada Inc.</td>
<td>Suite 1100, Sussex Centre, 90 Burnhamthorpe Road West, Mississauga, ON L5B 3C3</td>
</tr>
<tr>
<td>Caroline Colozza</td>
<td>Eli Lilly Canada Inc.</td>
<td>3650 Danforth Avenue, Toronto, ON M1N 2E8</td>
</tr>
<tr>
<td>Rudy Rizkalla</td>
<td>Eli Lilly Canada Inc.</td>
<td>3650 Danforth Avenue, Toronto, ON M1N 2E8</td>
</tr>
<tr>
<td>Ida Kircanski</td>
<td>Hoffmann-La Roche Limited</td>
<td>7070 Mississauga Road, Mississauga, ON L5N 5M8</td>
</tr>
<tr>
<td>Anh Nguyen</td>
<td>Hoffmann-La Roche Limited</td>
<td>7070 Mississauga Road, Mississauga, ON L5N 5M8</td>
</tr>
<tr>
<td>Beini Zhang</td>
<td>Hoffmann-La Roche Limited</td>
<td>7070 Mississauga Road, Mississauga, ON L5N 5M8</td>
</tr>
<tr>
<td>Patricia Lu</td>
<td>Sanofi Pasteur</td>
<td>1755 Steeles Avenue West, Toronto, ON M2R 3T4</td>
</tr>
</tbody>
</table>
The following are residents for 2018-2019:

Arpit Chhabra  
*Amgen Canada*  
6775 Financial Drive, Suite 100  
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Erika Martire  
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Sonya Dhanjal  
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Tian (Peter) Xia  
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Mississauga, ON L5N 5M8

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Mississauga, ON L5N 5M8

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Kristina Kozlovsky  
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Alexander Mok  
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Toronto, ON M2R 3T4

Ran Shu  
*Sanofi Pasteur*  
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Toronto, ON M2R 3T4
Hillary Wen
Sanofi Pasteur
1755 Steeles Avenue West
Toronto, ON M2R 3T4
XII. FINANCIAL SUPPORT

The resident will be an employee of the Company, on a special project basis. The same stipend will apply to each and every program. It will be established yearly. For 2018-2019 the stipend for the general residency will be $48,000 and for the specialty residency will be $50,500. For 2019-2020 the stipend for the general residency will be $48,960 and for the specialty residency will be $51,510.** (Note that all programs currently are designated as ‘specialty’.)** It should be noted that while the stipend is uniform at all participating companies, the benefits are definitely not uniform. The applicant should seek information regarding benefits from those companies to which the applicant is applying. The benefits may include for example: vacation time, health benefits and attendance at conferences.
**APPENDIX I**

**COMPANY SUPERVISOR ADDRESSES AND AREAS OF ACTIVITY IN PARTICIPATING COMPANIES**

<table>
<thead>
<tr>
<th>Supervisor Name</th>
<th>Title and Company Details</th>
<th>Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Martin Cho, Supervisor</td>
<td>Director, Market Access &amp; Government Relations, Allergan Inc.</td>
<td>85 Enterprise Blvd., Suite 500, Markham, ON L6G 0B5, E-mail: <a href="mailto:Cho_Martin@Allergan.com">Cho_Martin@Allergan.com</a></td>
</tr>
<tr>
<td>Mirjana Chionglo, PharmD, Supervisor</td>
<td>Sr. Manager, Scientific Affairs, Amgen Canada</td>
<td>6775 Financial Drive, Suite 100 Mississauga, ON L5N 04A, Tel: 905-285-3048, Email: <a href="mailto:mirjanac@amgen.com">mirjanac@amgen.com</a></td>
</tr>
<tr>
<td>Naivin Sayani, Supervisor</td>
<td>Associate Director, Medical Operations, Medical Affairs, Astellas Pharma Canada</td>
<td>675 Cochrane Dr. Suite 500, West Tower Markham, ON L3R 0B8, Tel: 905-946-3618, E-mail: <a href="mailto:naivin.sayani@astellas.com">naivin.sayani@astellas.com</a></td>
</tr>
<tr>
<td>Mohammed Mahdi, Supervisor</td>
<td>Sr. Manager, Medical Scientific Advisor-Hematology, Bayer Inc.</td>
<td>2920 Matheson Blvd E, Mississauga, ON L4W 5J4, Tel: 905-282-5532, Email: <a href="mailto:mohammed.mahdi@bayer.com">mohammed.mahdi@bayer.com</a></td>
</tr>
<tr>
<td>Jason Lam, Supervisor</td>
<td>Senior Associate, Market Access, Biogen Idec Canada Inc.</td>
<td>Suite 1100, Sussex Centre 90 Burnhamthorpe Road West Mississauga, ON L5B 3C3, Tel: 905-587-3239, E-mail: <a href="mailto:jason.lam@biogenidec.com">jason.lam@biogenidec.com</a></td>
</tr>
<tr>
<td>Judy McBride</td>
<td>Senior Associate, Market Access, Biogen Idec Canada Inc.</td>
<td>Suite 1100, Sussex Centre 90 Burnhamthorpe Road West Mississauga, ON L5B 3C3, Tel: 905-587-3239, E-mail: <a href="mailto:jason.lam@biogenidec.com">jason.lam@biogenidec.com</a></td>
</tr>
<tr>
<td>Joanna Rizos, Supervisor</td>
<td>Medical Affairs Manager, Eli Lilly Canada Inc.</td>
<td>3650 Danforth Avenue, Toronto, ON M1N 2E8, Tel: 416-693-3849, E-mail: <a href="mailto:rizos_joanna@lilly.com">rizos_joanna@lilly.com</a></td>
</tr>
<tr>
<td>Haron Mark Jeddi, Supervisor</td>
<td>Director, Pricing, Reimbursement and Patient Access, Eli Lilly Canada Inc.</td>
<td>3650 Danforth Avenue, Toronto, ON M1N 2E8, Tel: 416-699-7443, E-mail: <a href="mailto:jeddi_haron_mark@lilly.com">jeddi_haron_mark@lilly.com</a></td>
</tr>
</tbody>
</table>

Faculty Liaison: Certina Ho, TBA, Marie Rocchi, Paul Grootendorst
<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Contact Information</th>
<th>Faculty Liaison</th>
</tr>
</thead>
</table>
| David Krakovsky, BScPhm, PharmD, Supervisor | Director, Medical Safety, Information and Governance | GlaxoSmithKline Inc.  
7333 Mississauga Road North  
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Tel: 905-814-2256  
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<table>
<thead>
<tr>
<th>Name</th>
<th>Title/Education</th>
<th>Company</th>
<th>Address</th>
<th>Phone</th>
<th>Email</th>
<th>Liaison</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amit Suri, MSc, Supervisor</td>
<td>Medical Director, Head of Multiple Sclerosis, Canada</td>
<td>Sanofi Genzyme</td>
<td>800 West – 2700 Matheson Blvd E</td>
<td>Tel: 905-625-0011</td>
<td><a href="mailto:Amit.Suri@sanofi.com">Amit.Suri@sanofi.com</a></td>
<td>Ping Lee</td>
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<tr>
<td>Gary Lam, BSc, PharmD</td>
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<td>Ping Lee</td>
</tr>
<tr>
<td>Dave McEachran, MSc, Supervisor</td>
<td>Head of Compliance, Canada</td>
<td>Sanofi Pasteur</td>
<td>1755 Steeles Avenue West</td>
<td>Tel: 416-667-2796</td>
<td><a href="mailto:dave.mceachran@sanofi.com">dave.mceachran@sanofi.com</a></td>
<td>Vinita Arora/Linda Dresser</td>
</tr>
<tr>
<td>Dion Neame, MD, BCh, BSc, FRCPC, FAAP, Supervisor</td>
<td>Head of Scientific and Medical Affairs, Canada</td>
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<td>Tel: 416-667-2884</td>
<td><a href="mailto:dion.neame@sanofi.com">dion.neame@sanofi.com</a></td>
<td>Vinita Arora/Linda Dresser</td>
</tr>
<tr>
<td>Truong Ta, PhD, MBA, Supervisor</td>
<td>Head of Immunization Policy, Canada</td>
<td>Sanofi Pasteur</td>
<td>1755 Steeles Avenue West</td>
<td>Tel: 416-667-2096</td>
<td><a href="mailto:truong.ta@sanofi.com">truong.ta@sanofi.com</a></td>
<td>Vinita Arora/Linda Dresser</td>
</tr>
<tr>
<td>Helen Ng, Supervisor</td>
<td>Director, Product Marketing, Commercial Operations, Canada</td>
<td>Sanofi Pasteur</td>
<td>1755 Steeles Avenue West</td>
<td>Tel: 416-667-2945</td>
<td><a href="mailto:Helen.Ng2@sanofi.com">Helen.Ng2@sanofi.com</a></td>
<td>Vinita Arora/Linda Dresser</td>
</tr>
</tbody>
</table>
APPENDIX II

PROGRAM GUIDELINES FOR THE MAJOR PROJECT

1. Philosophy:

   To conform with the Industrial Pharmacy Residency Program Committee Requirements, a major project must be undertaken and successfully completed as partial fulfillment of the residency program. This requirement is to assist the resident in gaining practical problem solving experience. It is anticipated that the resident will obtain a rudimentary understanding of conventional research in which an identified problem or question generates a systematic investigation to arrive at a solution. The project need not be an original idea or issue. However, it should not solely be a literature search. Rather, it must follow the general steps of a) problem identification; b) determining the information currently available; c) setting out alternative methods to solve the problem; d) selecting an experimental method; e) collecting the data; f) summarizing and critically analyzing the findings; g) stating the solution and/or developing recommendations; and h) suggesting further research work.

2. Expectations:
   a. Of the Pharmaceutical Company

      While the project may represent a collaborative venture between various professionals, the company must identify a supervisor who shall take full responsibility for the resident's work.

      Within two months from the starting date of a resident's program, the supervisor shall provide that resident with a reasonable list of potential projects, (normally six or more) from which a selection shall be made not later than January. Alternatively, the problem may be identified and selected by the resident with the approval of the Core Committee.

   b. Of the Resident

      i) The nature of the project

      Although many widely differing projects could meet the requirements, several principles shall be applied. First, the project shall be acceptable to the Core Committee. Second, while it may serve the needs of the company, the project shall be worthwhile to the degree that it permits the student to gain practical experience in research. Finally, it is important that the research is feasible and can realistically be completed, particularly in the time frame allotted to the project.

      ii) Selecting a project
The Company Supervisor, as previously stated, shall furnish the resident with a list of projects from which the resident can make a choice. The resident may also have independent views on a particular projects. The overriding principle should be that the resident and Company Supervisor agree on a worthwhile project that would permit the research to be carried forward. It is preferable that the results of the major project be published if possible.

iii) The time allotted for the project

In order for the resident to learn about research methodology, three(3) months shall ordinarily be devoted to the project. In the interests of progress, it may be advisable to provide this time in smaller segments rather than as a single block. This might facilitate, for example, the literature review and writing of a protocol.

iv) Reporting on the project

The project shall be presented to the Core Committee as stated previously. A final written report shall also be compiled, organized like a publication, containing for example:

- a title page
- introduction
- methodology
- results
- discussion including recommendations and relationship to literature reports
- suggestions for further research
- conclusion
- references

In addition, the resident may decide to include the following

- acknowledgments
- a one-page abstract (up to 250 words)
- suggestions for further research
- tables
- legends for figures
- figures
- appendices, where needed.
APPENDIX III

SAMPLE TEMPLATES
For Learning Objective Setting & Evaluations of Industrial Pharmacy Residents

The attached Templates were kindly provided by Lisa Li, Pharmacy Resident in Drug Information at Astellas Pharma for 2013-2014, who designed these forms for Medical Information Specialty during her residency as Astellas. Interested companies and residents should be able to adopt these forms either as is or in modified form to suit individual needs. Lisa Li has also provided the following synopsis regarding these template forms:

There are 4 forms attached – Learning Objectives, Presentation Evaluation, Medical Information Residency Evaluation and Major Project Residency Evaluation.

Setting the Learning Objectives for the residency is to further enhance the learning of the residency, beyond those objectives set for the specialty residency itself. Examples can include exposure to different departments within the company, participating in a company sponsored conference, etc. This is to be set at the beginning of the residency, and with the guidance of the Director so there is ample opportunity for these types of activities throughout the year.

The Presentation Evaluation is a multi-purpose form that allows the resident to gain formal feedback after delivering any presentation.

The Medical Information Residency Evaluation is to evaluate the knowledge and competencies of the resident within the specialty residency itself (in our case, the specialty is in Medical Information) and also assessing professional behaviors. We thought it would be best to assess this at midpoint and end of residency (to assess progress over the year), with an opportunity for a self-evaluation and supervisor evaluation.

The Major Project Evaluation is to evaluate different aspects of project management with the major project. This includes team work, project planning, communication skills, attitudes and behaviors. We also thought it would be best to assess this at midpoint and end of residency, with an opportunity for a self-evaluation and supervisor evaluation.
# Personal Learning Objectives

Resident Name:  
Supervisor Name:  
Director Name:  

The following objectives for this rotation are the result of negotiation between the resident, the supervisor and the Director of Medical Affairs, and include:

- objectives that educate the resident about different teams within Medical Affairs  
- objectives that expose the resident to different areas of the company’s departments  

Do not include Medical Information Residency Program Objectives listed on the Residency Program Guide.

The learning objectives should be reviewed at the midpoint and final assessment.

<table>
<thead>
<tr>
<th>LEARNING OBJECTIVE</th>
<th>RATIONALE FOR LEARNING OBJECTIVE</th>
</tr>
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<tbody>
<tr>
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</tbody>
</table>
# Presentation Evaluation

**Resident's Name:**
**Date:**
**Presentation Title:**

**Performance level:**
1 = did not meet expected level of performance  
2 = met expected level of performance  
3 = exceeded expected level of performance  
N/A = not applicable

<table>
<thead>
<tr>
<th>Evaluation Criteria</th>
<th>Performance Level</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Presentation Content:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Presents good background information and rationale</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demonstrates critical assessment of the topic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provides appropriate recommendations and/or conclusions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Able to comment on the practical application of the presentation to the practice site</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Presentation Skills:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Presentation organization</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Presentation skills (eye contact, pace, clarity)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Response to questions</td>
<td></td>
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</table>

**Overall Comments (including strengths and areas for improvement):**
# Medical Information Residency Evaluation

<table>
<thead>
<tr>
<th>Resident's Name:</th>
<th>Supervisor:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date:</td>
<td></td>
</tr>
<tr>
<td>Mid-point Evaluation or Final Evaluation</td>
<td></td>
</tr>
<tr>
<td>Supervisor Evaluation or Self-Evaluation</td>
<td></td>
</tr>
</tbody>
</table>

**Performance level:**
- 1 = did not meet expected level of performance
- 2 = met expected level of performance
- 3 = exceeded expected level of performance
- N/A = not applicable

<table>
<thead>
<tr>
<th>Evaluation Criteria</th>
<th>Performance Level</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Knowledge and Competencies:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provide accurate, fair-balanced, and current medical and technical information regarding Company products to healthcare professionals, patients and consumers.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Respond to inquiries in both verbal and written formats and tailor responses to the target audience</td>
<td></td>
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<tr>
<td>Develop and/or update standard response medical letters</td>
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</tr>
<tr>
<td>Perform and evaluate literature searches to stay current on the latest scientific information and disseminate Literature Updates to Therapeutic Area team members</td>
<td></td>
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<tr>
<td>Apply documentation skills by utilizing the departments' inquiry management database</td>
<td></td>
<td></td>
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<tr>
<td>Formulate adverse event and product complaint reports from medical inquiries</td>
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</table>
Review promotional materials and provide input on marketing programs and advertisements to ensure compliance with laws and regulations

Professional Behavioural Assessment:

- Demonstrates ability to complete assigned tasks in a timely fashion
- Demonstrates self-directed learning and independence of action, and seeks consultation where appropriate

Overall Comments (including strengths and areas for improvement):

Date of Review: ________________

Resident’s Signature

Supervisor’s Signature

Director’s Signature (Final Evaluation Only)
## Major Project Evaluation

<table>
<thead>
<tr>
<th>Resident Name:</th>
<th>Supervisor Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date:</td>
<td></td>
</tr>
<tr>
<td>Self-Evaluation</td>
<td>Project Supervisor Evaluation</td>
</tr>
<tr>
<td>Mid-point Evaluation</td>
<td>Final Evaluation</td>
</tr>
</tbody>
</table>

### Performance level:
1 = did not meet expected level of performance  
2 = met expected level of performance  
3 = exceeded expected level of performance  
N/A = not applicable

<table>
<thead>
<tr>
<th>Evaluation Criteria</th>
<th>Performance Level</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Knowledge and Skills:</strong></td>
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<tr>
<td>Project Planning</td>
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<tr>
<td>Adherence to schedule and work productivity</td>
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<tr>
<td>Ability to work in a team</td>
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<tr>
<td>Ability to anticipate and analyze problems</td>
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<tr>
<td>Quality of work</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decision making skills</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral communication skills</td>
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<td></td>
</tr>
<tr>
<td>Written communication skills</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contribution and value added to Medical Affairs department</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Attitudes:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ability to evaluate and respond to constructive feedback in a positive manner</td>
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<td></td>
</tr>
<tr>
<td>Demonstrates self-directed and independence of action, and seeks consultation where appropriate</td>
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<td></td>
</tr>
<tr>
<td>Dependability and accountability</td>
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### Overall Comments:
APPENDIX IV

DEFINITIONS

Medical/Scientific Affairs

Bioavailability: measurements of the rate and extent of drug absorption.

Clinical Research: the design and monitoring of scientifically valid and ethical studies in humans for investigational drugs, new drugs and new indications for marketed drugs.

Medical/Drug Information: responds to all medical inquiries from sales representatives, health-care professionals, consumers and departments within the company. Reviews medical literature. Ensures compliance of all medical marketing materials.


Regulatory Affairs: gathering, interpreting, summarizing and formatting information to submit to the government for approval for the sale of a drug. Ensuring that all departments of the company operate according to the Food and Drugs Act and regulatory guidelines.

Statistical Analysis: statistical analysis of data from clinical research and other studies.

Product Development and Formulation: the processes involved in the creation of dosage forms and their development for commercial use.

Marketing

Market Access: Seeking reimbursement through public/private payor.

Market Research: collecting information on prescribing habits and prescriptions to assist in designing better marketing strategies.

Product Management: strategic business responsibilities for product(s) from manufacturing through to pricing and advertising with the ultimate goal of making a profit.
Promotion and Advertising:
   a product is promoted and advertised to the health science community (e.g. through sales representatives and professional journal advertising).

Sales

Consumer Sales:
   promoting non-prescription products through displays and other incentives.

Pharmaceutical Sales:
   sales representatives call on doctors and pharmacists to familiarize and/or introduce them to the company's products.

Sales Training:
   the program(s) necessary to prepare a sales representative to call on doctors and pharmacists in various specialties for the promotion of the company's products and services.

Production

Manufacturing:
   the combination and manipulation of raw materials in large quantities to produce the final dosage form.

Packaging:
   the assembly of the drug into its container and labeling for shipment.

Quality Control/Quality Assurance

Quality Assurance:
   monitoring to ensure that standard operating procedures are being carried out according to internal procedures and government regulations.

Quality Control:
   testing, from the receipt of raw materials to the shipping of the final product, to ensure that standard specifications are met.

Managed Care:

   the administration of health care resources for the efficient and effective treatment of disease and the promotion of health to enhance the quality of life.

Pharmacoeconomics:

   the description and analysis of the costs (i.e. resources consumed) and consequences of pharmaceutical products and services.
APPENDIX V

Dear Prospective Resident,

Since your application will be your communication with the companies of interest to you, it is essential that it be completed in an intelligent, knowledgeable, concise and clear manner. This application is usually responsible for forming a first impression with the company's supervisor and consequently, is important in the selection of candidates for the residency. The residency often assists the residents in the selection of their future careers.

You should find out about the companies of your choice as suggested in Section III (APPLICATION PROCEDURE), (1) and Section XI (ADDITIONAL INFORMATION), (1). The names of supervisors and areas of activity of participating companies are provided in Appendix I. In addition, annual reports or similar information should be available on company websites. You should have sufficient knowledge about the company so that you may make a suitable selection and are able to answer questions about the company during the interview.

APPENDIX VI

The Award

The Program Committee of the Industrial Pharmacy residency Program consisting of the Leslie Dan Faculty of Pharmacy in cooperation with the participating companies has sponsored an Award consisting of a plaque and $1000.00 to acknowledge one resident who has completed a major project of high quality and who has demonstrated leadership qualities and undertaken new initiatives during his or her residency. Normally the award is given to one resident, however under certain circumstances the award may be split into two awards of equal value. Residents applying for the award shall provide a copy of their major project and documented evidence indicating leadership qualities and new initiatives during their residency, to the Coordinator, Industrial Pharmacy Residence Program of the Leslie Dan Faculty of Pharmacy by October 31 of the year they complete the residency. Only applicants who have completed all the requirements of the program within one year of beginning, are eligible to apply for the award unless there are extenuating circumstances.

APPENDIX VII

APPLICATION FORM

Note: see application process on IPRP web page.