Online Specialist in Blood Bank (SBB) Certificate and Masters in Clinical Laboratory Management Program Rush University | College of Health Sciences

Continue to work and earn graduate credit while the Rush University SBB/MS program prepares you for the SBB exam and the Diplomat in Laboratory Management (DLM) exam given by ASCP Board of Certification! (Please note acceptable clinical experience is required for these exams.)

Rush University offers online graduate level courses to help you achieve your career goals. Several curricular options are available. The SBB/MS program at Rush University is currently accepting applications for Fall 2019. For additional information and requirements, please visit our Web site at: www.rushu.rush.edu/cls/

Rush University is fully accredited by the Higher Learning Commission (HLC) of the North Central Association of Colleges and Schools, and the SBB Certificate Program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP).

Applications for the SBB/MS Program can be submitted online at the following Web site: http://www.rushu.rush.edu/admiss/hlthadm.html

Contact: Laurie Gillard, MS, MLS(ASCP)SBB
Director of the Specialist in Blood Banking Program
Assistant Professor, Department of Medical Laboratory Science, Rush University
312-942-2402 (o) | 312-942-6464 (f) | Laurie_Gillard@rush.edu

Denise Harmening, PhD, MT(ASCP)
Director of Curriculum, Denise_Harmening@rush.edu.
600 S. Paulina Street | Suite 1021 AAC | Chicago, IL 60612
Masters of Science (MSc) in Transfusion and Transplantation Sciences at the University of Bristol, England

Applications are invited from medical or science graduates for the Master of Science (MSc) degree in Transfusion and Transplantation Sciences at the University of Bristol. The course starts in October 2019 and will last for 1 year. A part-time option lasting 2 or 3 years is also available. There may also be opportunities to continue studies for PhD or MD following the MSc. The syllabus is organized jointly by the Bristol Institute for Transfusion Sciences and the University of Bristol, Department of Pathology and Microbiology. It includes:

- Scientific principles of transfusion and transplantation
- Clinical applications of these principles
- Practical techniques in transfusion and transplantation
- Principles of study design and biostatistics
- An original research project

Application can also be made for a Diploma in Transfusion and Transplantation Sciences or a Certificate in Transfusion and Transplantation Sciences.

The course is accredited by the Institute of Biomedical Sciences.

Further information can be obtained from the Web site: http://ibgrl.blood.co.uk/MSc/MscHome.htm

For further details and application forms, please contact:

Dr. Patricia Denning-Kendall
University of Bristol
Paul O’Gorman Lifeline Centre
Department of Pathology and Microbiology
Southmead Hospital
Westbury-on-Trym, Bristol BS10 5NB, England
Fax +44 1179 595 342, Telephone +44 1779 595 455, e-mail: p.a.denning-kendall@bristol.ac.uk
## 2019 Educational Courses

<table>
<thead>
<tr>
<th>DATES</th>
<th>PROGRAMS</th>
<th>LOCATIONS</th>
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<tbody>
<tr>
<td>February 13</td>
<td>Webinar</td>
<td>Online</td>
</tr>
<tr>
<td>March 7-8</td>
<td>TSEC</td>
<td>Atlanta, GA</td>
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<tr>
<td>April 10-12</td>
<td>Hands-On (Molecular)</td>
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<tr>
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<td>TSEC</td>
<td>Seattle, WA</td>
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<td>September 12-13</td>
<td>TSEC</td>
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<tr>
<td>October 9</td>
<td>Webinar</td>
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<tr>
<td>November 6-8</td>
<td>Hands-On (Serology)</td>
<td>San Marcos, TX</td>
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<tr>
<td>December 5-6</td>
<td>TSEC</td>
<td>Dallas, TX</td>
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</table>

The Grifols Academy of Immunohematology is approved by the American Society for Clinical Laboratory Science (ASCLS) as a P.A.C.E. provider, and the Florida Board of Clinical Laboratory Personnel.

All our programs offer C.E. credit.

For more information, please contact the Grifols Academy of Immunohematology at:
Email: TSEC@grifols.com; Phone: 1-833-835-9429

All dates and locations are subject to change.
Educational Programs 2019

SAVE THE DATE

Dear Colleague,

The Grifols Academy of Transfusion Medicine is pleased to announce its 2019 educational schedule. This extensive educational offering exemplifies Grifols’ commitment to support continuing education in the field of transfusion medicine, and addresses comments and suggestions provided during past sessions. The Grifols Academy of Transfusion Medicine is approved as a provider of continuing education programs by the American Society for Clinical Laboratory Science (ASCLS) P.A.C.E.® program and the Florida Board of Clinical Laboratory Personnel. All programs offer C.E. credit.

Transfusion Science Educational Course (TSEC)
This course reviews the pathophysiology of alloimmunization, with an emphasis on the integration of serological and molecular methods for blood group antibody identification and compatibility testing. In addition, factors influencing transfusion decisions for the alloimmunized patient are discussed. Interactive case studies provide the opportunity to enhance practical case resolution skills.

Faculty: Recognized experts in the field of immunohematology, blood group genomics, and transfusion medicine
Level: Advanced
Continuing Education Credits: 10 - 13 hours P.A.C.E.® credits

Immunohematology Workshop (Hands-On)
This course presents the molecular basis and serological characteristics of blood group antigens and applies various molecular techniques to interrogate red cell antigen polymorphisms. During three days, participants will divide their time between classroom lectures and hands-on practice in our training laboratory located in San Marcos, TX. Participants will utilize advanced serological and molecular techniques to resolve complex cases.

Level: Advanced
Continuing Education Credits: 14 - 17 hours P.A.C.E.® credits

Webinars
This one hour online course targets current trends and innovative practices relevant to blood bank laboratory technology and transfusion medicine.

Level: Beginner, intermediate, and advanced
Continuing Education Credits: 1 hour P.A.C.E.® credit

Cost
These programs are offered FREE of charge. Each participant is responsible for the cost of their own travel and accommodations when required for attendance.

For registration and other information, please email: TSEC@grifols.com

*All dates subject to change

2019 TSEC Schedule*

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2019 Hands-On Schedule*

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<th>Topic</th>
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</tr>
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<td>November 6-8</td>
<td>Serology</td>
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2019 Webinar Schedule*

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</tr>
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</tr>
</tbody>
</table>
The Discovery and Significance of the Blood Groups

Marion Reid
Ian Shine

A must for the bookshelf of every blood bank.
A superb and beautiful book.
John Gorman MD,
Lasker Award 1980

The authors convey the excitement of scientific discovery so effectively on every page.
S. Gerald Sandler, MD
Professor of Medicine and Pathology,
Georgetown University Hospital

It’s more like reading an eye-witness account
than a scientific textbook. Wonderfully readable,
and a great addition to the books on blood groups.
Phyllis Walker, MT(ASCP)SBB,
San Francisco

BLOOD GROUP ANTIGENS
& ANTIBODIES

Marion E. Reid
& Christine Lomas-Francis

A landmark book . . . Every MD and clinical transfusion service should have their own personal copy.
Sandra J. Nance

The most valued and useful resource in my blood banking and immunohematology library . . .

It is highly readable and an enjoyable,
painless way to update your information about blood group antigens.

Immunohematology

Blood Group Antigens & Antibodies
by Marion Reid & Christine Lomas-Francis
Paperback/5.4” x 8.4”/214 pp./$25.00
ISBN 978-1-59572-103-7

AVAILABLE NOW!
To order, call 718-784-9112
or visit
www.bloodgroups.info
www.sbbpocketbook.com
What is a certified Specialist in Blood Banking (SBB)?
- Someone with educational and work experience qualifications who successfully passes the American Society for Clinical Pathology (ASCP) board of registry (BOR) examination for the Specialist in Blood Banking.
- This person will have advanced knowledge, skills, and abilities in the field of transfusion medicine and blood banking.

Individuals who have an SBB certification serve in many areas of transfusion medicine:
- Serve as regulatory, technical, procedural, and research advisors
- Perform and direct administrative functions
- Develop, validate, implement, and perform laboratory procedures
- Analyze quality issues preparing and implementing corrective actions to prevent and document issues
- Design and present educational programs
- Provide technical and scientific training in transfusion medicine
- Conduct research in transfusion medicine

Who are SBBs?
- Supervisors of Transfusion Services
- Managers of Blood Centers
- LIS Coordinators
- Educators
- Supervisors of Reference Laboratories
- Research Scientists
- Consumer Safety Officers
- Reference Lab Specialists
- Quality Assurance Officers
- Technical Representatives

Why become an SBB?
- Professional growth
- Job placement
- Job satisfaction
- Career advancement

How does one become an SBB?
- Attend a CAAHEP-accredited SBB Technology program OR
- Sit for the examination based on criteria established by ASCP for education and experience.

However: In recent years, a greater percentage of individuals who graduate from CAAHEP-accredited programs pass the SBB exam. Conclusion: The BEST route for obtaining an SBB certification is . . . to attend a CAAHEP-accredited Specialist in Blood Bank Technology Program.

Facilities with CAAHEP-accredited programs, onsite or online, are listed below.

Additional information can be found by visiting the following Web sites: www.ascp.org, www.caahep.org, and www.aabb.org.

<table>
<thead>
<tr>
<th>California</th>
<th>American Red Cross Blood Services</th>
<th>Pomona, CA</th>
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<tbody>
<tr>
<td>Florida</td>
<td>Academic Center at OneBlood</td>
<td>St. Petersburg, FL</td>
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<td>Illinois</td>
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<td>The Johns Hopkins Hospital</td>
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<td>University Health System and Affiliates School of Blood Bank Technology</td>
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<td>University of Texas Medical Branch</td>
<td>Galveston, TX</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>Versiti Wisconsin, Inc.</td>
<td>Milwaukee, WI</td>
</tr>
</tbody>
</table>

Revised March 2019
Diagnostic testing for:
- Neonatal alloimmune thrombocytopenia (NAIT)
- Post-transfusion purpura (PTP)
- Refractoriness to platelet transfusion
- Heparin-induced thrombocytopenia (HIT)
- Alloimmune idiopathic thrombocytopenia purpura (AITP)

Medical consultation available

Test methods:
- GTI systems tests
  - detection of glycoprotein-specific platelet antibodies
  - detection of heparin-induced antibodies (PF4 ELISA)
- Platelet suspension immunofluorescence test (PSIFT)
- Solid-phase red cell adherence (SPRCA) assay
- Molecular analysis for HPA-1a/1b

For further information, contact:
Platelet Serology Laboratory (215) 451-4205
Dexter Facey (215) 451-2545
Dexter.Facey@redcross.org

American Red Cross Biomedical Services
Musser Blood Center
700 Spring Garden Street
Philadelphia, PA 19123-3594

National Reference Laboratory for Specialized Testing

National Neutrophil Serology Reference Laboratory

Our laboratory specializes in granulocyte antibody detection and granulocyte antigen typing.

Indications for granulocyte serology testing include:
- Alloimmune neonatal neutropenia (ANN)
- Autoimmune neutropenia (AIN)
- Transfusion-related acute lung injury (TRALI)

Methodologies employed:
- Granulocyte agglutination (GA)
- Granulocyte immunofluorescence by flow cytometry (GIF)
- Monoclonal antibody immobilization of neutrophil antigens (MAINA)

TRALI investigations also include:
- HLA (PRA) Class I and Class II antibody detection

For further information, contact:
Neutrophil Serology Laboratory (651) 291-6797
Randy Schuller (651) 291-6758
Randy.Schuller@redcross.org

American Red Cross Biomedical Services
Neutrophil Serology Laboratory
100 South Robert Street
St. Paul, MN 55107

Molecular Immunohematology Testing

Internationally recognized, CLIA-licensed and AABB accredited molecular immunohematology lab offering:
- Tailored testing solutions with low, medium, and high resolution to best suit your patient-specific needs
- Skilled lab professionals at the forefront of molecular research and testing ready to provide expert consultation
- Convenient, single point ordering for service requests and electronic reporting
- FDA-approved tests coupled with lab-developed assays to increase the accuracy and sensitivity of the services
- Tests include
  - RBC phenotype prediction using Human Erythrocyte Antigen (HEA) panel
  - RHD genotyping for detection of RhD variants (including weak, partial, and Dnull)
  - RHCE genotyping to predict C, c, E, e, V, VS, hrα, and hrα antigen expression
  - ABO genotyping
  - Variant detection in other blood group systems and related genes (FY, MNS, LU, JK, YT, XK, KLF1)
  - HPA genotyping (HPA-1, 2, 3, 4, 5, 6, 9, 15) for neonatal alloimmune thrombocytopenia

American Red Cross Biomedical Services
National Molecular Laboratory
700 Spring Garden Street
Philadelphia, PA 19123-3594
(215) 451-4917
nationalmolecular@redcross.org
Antibody identification and problem resolution

- HLA-A, B, C, and DR typing
- HLA-disease association typing
- Paternity testing/DNA

For information, contact:

Zahra Mehdizadehkashi
at (503) 280-0210

or write to:

Tissue Typing Laboratory
American Red Cross Biomedical Services
Pacific Northwest Region
3131 North Vancouver
Portland, OR 97227

IgA Testing

IgA testing is available to do the following:

- Identify IgA-deficient patients
- Investigate anaphylactic reactions
- Confirm IgA-deficient donors

Our ELISA for IgA detects protein to 0.05 mg/dL.

For additional information contact:

Dexter Facey (215) 451-2545

e-mail: Dexter.Facey@redcross.org

or write to:

American Red Cross Biomedical Services
Musser Blood Center
700 Spring Garden Street
Philadelphia, PA 19123-3594

ATTN: Dexter Facey

Donor IgA Screening

- Effective tool for screening large volumes of donors
- Gel diffusion test that has a 15-year proven track record: Approximately 90 percent of all donors identified as IgA deficient by this method are confirmed by the more sensitive testing methods
- A small fee may be charged.

For additional information:

Lauren Smith
at (860) 519-4017

e-mail: Lauren.Smith@redcross.org

or write to:

Reference Laboratory
American Red Cross Biomedical Services
Connecticut Region
209 Farmington Avenue
Farmington, CT 06032

Immunohematology Reference Laboratory

AABB, ARC, New York State, and CLIA licensed

24-HOUR PHONE NUMBER:
(215) 451-4901
Fax: (215) 451-2538

American Rare Donor Program

24-HOUR PHONE NUMBER:
(215) 451-4900
Fax: (215) 451-2538
ardp@redcross.org

Immunohematology

PHONE, BUSINESS HOURS:
(215) 451-4902
Fax: (215) 451-2538
immuno@redcross.org
A. For describing an allele that has not been described in a peer-reviewed publication and for which an allele name or provisional allele name has been assigned by the ISBT Working Party on Blood Group Allele Terminology (http://www.isbtweb.org/working-parties/red-cell-immunogenetics-and-blood-group-terminology/blood-group-terminology/blood-group-allele-terminology/)

B. Preparation
1. Title: Allele Name (Allele Detail)
   ex. RHCE*01.01 (RHCE*ce48C)
2. Author Names (initials and last name of each [no degrees, ALL CAPS])

C. Text
1. Case Report
   i. Clinical and immunohematologic data
   ii. Race/ethnicity and country of origin of proband, if known
2. Materials and Methods
   Description of appropriate controls, procedures, methods, equipment, reagents, etc. Equipment and reagents should be identified in parentheses by model or lot and manufacturer's name, city, and state. Do not use patient names or hospital numbers.
3. Results
   Complete the Table Below:

<table>
<thead>
<tr>
<th>Phenotype</th>
<th>Allele Name</th>
<th>Nucleotide(s)</th>
<th>Exon(s)</th>
<th>Amino Acid(s)</th>
<th>Allele Detail</th>
<th>References</th>
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</thead>
<tbody>
<tr>
<td>e weak</td>
<td>RHCE*01.01</td>
<td>48G&gt;C</td>
<td>1</td>
<td>Trp16Cys</td>
<td>RHCE*ce48C</td>
<td>1</td>
</tr>
</tbody>
</table>

   Column 1: Describe the immunohematologic phenotype (ex. weak or negative for an antigen).
   Column 2: List the allele name or provisional allele name.
   Column 3: List the nucleotide number and the change, using the reference sequence (see ISBT Blood Group Allele Terminology Pages for reference sequence ID).
   Column 4: List the exons where changes in nucleotide sequence were detected.
   Column 5: List the amino acids that are predicted to be changed, using the three-letter amino acid code.
   Column 6: List the non-consensus nucleotides after the gene name and asterisk.
   Column 7: If this allele was described in a meeting abstract, please assign a reference number and list in the References section.

4. Additional Information
   i. Indicate whether the variant is listed in the dbSNP database (http://www.ncbi.nlm.nih.gov/snp/); if so, provide rs number and any population frequency information, if available.
   ii. Indicate whether the authors performed any population screening and, if so, what the allele and genotype frequencies were.
   iii. Indicate whether the authors developed a genotyping assay to screen for this variant and, if so, describe in detail here.
   iv. Indicate whether this variant was found associated with other variants already reported (ex. RHCE*ce48C, 1025T is often linked to RHBDIVa-2).

D. Acknowledgments

E. References

F. Author Information
   List first name, middle initial, last name, highest degree, position held, institution and department, and complete address (including ZIP code) for all authors. List country when applicable.
I. GENERAL INSTRUCTIONS
Before submitting a manuscript, consult current issues of Immunohematology for style. Number the pages consecutively, beginning with the title page.

II. SCIENTIFIC ARTICLE, REVIEW, OR CASE REPORT WITH LITERATURE REVIEW
A. Each component of the manuscript must start on a new page in the following order:
   1. Title page
   2. Abstract
   3. Text
   4. Acknowledgments
   5. References
   6. Author information
   7. Tables
   8. Figures

B. Preparation of manuscript
   1. Title page
      a. Full title of manuscript with only first letter of first word capitalized (bold title)
      b. Initials and last name of each author (no degrees; ALL CAPS), e.g., M.T. JONES, J.H. BROWN, AND S.R. SMITH
      c. Running title of ≤40 characters, including spaces
      d. Three to ten key words
   2. Abstract
      a. One paragraph, no longer than 300 words
      b. Purpose, methods, findings, and conclusion of study
   3. Key words
      a. List under abstract
   4. Text (serial pages): Most manuscripts can usually, but not necessarily, be divided into sections (as described below). Survey results and review papers may need individualized sections
      a. Introduction — Purpose and rationale for study, including pertinent background references
      b. Case Report (if indicated by study) — Clinical and/or hematologic data and background serology/molecular
      c. Materials and Methods — Selection and number of subjects, samples, items, etc., studied and description of appropriate controls, procedures, methods, equipment, reagents, etc. Equipment and reagents should be identified in parentheses by model or lot and manufacturer’s name, city, and state. Do not use patients’ names or hospital numbers.
      d. Results — Presentation of concise and sequential results, referring to pertinent tables and/or figures, if applicable
      e. Discussion — Implication and limitations of the study, links to other studies; if appropriate, link conclusions to purpose of study as stated in introduction
   5. Acknowledgments: Acknowledge those who have made substantial contributions to the study, including secretarial assistance; list any grants.
   6. References
      a. In text, use superscript, Arabic numbers.
      b. Number references consecutively in the order they occur in the text.
   7. Tables
      a. Head each with a brief title; capitalize the first letter of first word (e.g., Table 1. Results of….) and use no punctuation at the end of the title.
   8. Figures
      a. Figures can be submitted either by e-mail or as photographs (5 ×7” glossy).
      b. Place caption for a figure on a separate page (e.g., Fig. 1 Results of…), ending with a period. If figure is submitted as a glossy, place first author’s name and figure number on back of each glossy submitted.
      c. When plotting points on a figure, use the following symbols if possible:
         ○ ● ▲ ■▲ ■ ● ▲ ● ■ ● ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ● ■ ●