

NEAFS Newsletter

Volume 40, Issue 3

Fall 2015

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Cover design by Teri Zgoda

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2015 “Future trends in forensic DNA technology”

HID university Seminar Series

NEAFS Seminar Agenda Wednesday October 14th, 2015

8:00 a.m.

Registration and continental breakfast

8:30 a.m.

Welcome and introductions — Robert Rossi
Thermo Fisher Scientific

8:45 a.m.

Overview of the day — Jaime Brachold
Thermo Fisher Scientific

9:15 a.m.

“Why do Y-Screening: An evaluation of a male screen with Quantifiler(tm) Trio to improved sample triaging” — Lauren Tobaygo Office of the Chief Medical Examiner, NY

10:00 a.m. Break

10:15 a.m.

“Are you ready for the new core CODIS loci? HPS tips and tricks for validations of the Applied Biosystems™ GlobalFiler™ kit” — Joannie Sgueglia, Thermo Fisher Scientific

11:00 a.m.

“Demystifying next-generation sequencing” — Amy Baldwin and Jacki Gabriel, Thermo Fisher Scientific

12:15 p.m. Lunch

1:00 p.m.

“Quantification/7500 troubleshooting” — Jaime Brachold, Thermo Fisher Scientific

2:00 p.m.

“Capillary electrophoresis troubleshooting” — Jacki Gabriel Thermo Fisher Scientific

3:15 p.m. Break

3:30 p.m. Roundtable discussion

4:00 p.m. Wrap-up and conclusion

ThermoFisher
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We Will Bring the Training to You!

President's Message

Lawrence Quarino

Laboratories with stretched financial resources often have difficulty funding scientists to attend training. When funding is available, laboratory directors usually have to choose which scientists and staff get to attend. After all, somebody has to mind the store. In an effort to alleviate this problem, NEAFS wishes to announce the implementation of a **Visiting Scientist** program beginning in 2016. We can't take all the credit for the idea, since the Midwestern Association of Forensic Scientist has had a similar program for some time that has been very successful. Essentially, forensic science laboratories (including public and private sector) in the NEAFS geographical region can simply complete the application (which will be under the Training link on the NEAFS website) specifying the training desired as well as the duration. NEAFS will do everything in its power to finance an appropriate individual to come to the laboratory to perform the training. The visit will come at no cost to the laboratory. The person(s) selected will be agreed upon by both NEAFS and the laboratory. The request can go beyond training to include any issue that the laboratory requires assistance (i.e. review of validation data, technical assistance with an instrument). This is just the latest initiative that NEAFS is implementing to help forensic science practice and the professional development of forensic science professionals.

As I near the end of my tenure as President, I wish to encourage all NEAFS members to get involved with the organization. President-Elect Erica Nadeau will be looking to staff key positions within the organization and it is always important to recruit new people to positions of leadership. She will be more than happy to speak to any and all interested parties.

I will always look back on my time as a member of the NEAFS Board of Directors and prior to that as Education Chair with great affection. What started out as a way to work again with past friends and colleagues is ending with the development of new friends many of which are much younger than me but who represent the future of not only the NEAFS organization but our treasured profession. It was a joy and privilege to work with all of them in our shared commitment to the betterment of forensic science. I expect the new generation to surpass all past generations in bringing the organization to new heights. In my 30 years as a NEAFS member, I can honestly say that NEAFS has never been stronger or more vital. It is and will remain an advocate for the professional development of forensic science professionals, the scientific development of students interested in a career in forensic science, and the progression of forensic science as it takes marches to its rightful place alongside all sciences.

I wish to thank everyone for the wonderful opportunity you have given me to lead what will always be my favorite forensic science organization.



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The following changes to the NEAFS Bylaws have been submitted by the Resolutions Committee. The changes have been approved by the NEAFS Board of Directors and will be voted on by the membership at the Annual Business Meeting on October 15, 2015. The current NEAFS Bylaws can be viewed by visiting www.neafs.org, placing the cursor over "Membership" and selecting "Bylaws".

NEAFS Bylaws

Article I, Organization:

The organization shall be known as "Northeastern Association of Forensic Scientists Inc." and shall be incorporated in the state of Connecticut, and shall be referred to as the "Corporation" hereinafter.

Article II, Purposes:

Section 1. To exchange ideas and information within the field of forensic science, and to foster friendship and cooperation among the various laboratory personnel.

Section 2. To encourage a high level of competency among professionals in the field of forensic science.

Section 3. To promote recognition of forensic science as an important component of the criminal justice system.

Section 4. To stimulate increased implementation of existing techniques, along with research and development of new techniques within the field, and to encourage financial support for these efforts.

Article III, Areas of Activity:

Section 1. Establish and enforce a code of ethics.

Section 2. Establish a board for review, when requested, of each instance involving differences of professional opinion.

Section 3. Lend assistance, whenever possible, in the formulation of college curricula and law enforcement training programs.

Section 4. Review and act upon pending legislation which appears to be related to the field when and where possible and so requested by competent authority.

Section 5. Organize and/or sanction meetings, symposia and discussions to further the exchange of information.

Article IV, Definition of Forensic Science:

The field of forensic science is defined as the application of the natural sciences to matters of the law.

Article V, Geographical Area:

The geographical area of the Corporation is to include the States of Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island and Vermont.

Article VI, Membership:

Section 1. General qualifications: Applicants for membership shall be expected to have previously demonstrated moral and ethical conduct befitting the profession. Any application may be rejected by the Membership Committee with the approval of the Board of Directors for the same reasons as termination of membership. (Article VI, Section 9)

Section 2. Regular Members (also referred to as Members): A Regular member of the Corporation (NEAFS) is one who has met the minimum established standards, has been approved by the Membership Committee, and is elected by a vote of 3/4 of the membership at the Annual Business meeting. A member shall be entitled to receive all publications, to a vote at business meetings, and to hold office. Qualifications for Regular Membership Shall Be:

- A. Hold a Doctorate, or Master's Degree, and have completed a minimum of two (2) years of experience or
- B. Hold a Baccalaureate degree and have completed a minimum of three (3) years of experience
- C. Have completed a minimum of ten (10) years of experience and be active in the field or
- D. Have, in the opinion of the Membership Committee, made such significant contributions to the field and or the Corporation to warrant Regular Membership.
- E. Experience, for purposes of Article VI, Section 2.a., is considered only in the field of forensic science:
 - 1. Working a minimum of fifteen (15) hours per week doing examinations and interpretation of physical evidence or,
 - 2. Working a minimum of fifteen (15) hours per week having done examinations and interpretation of physical evidence or,
 - 3. Working as a full-time professor in forensic science or criminalistics in an undergraduate or graduate program at an accredited college or university.

Section 3. Associate Members: Any person who does not meet the requirement for regular membership, may apply as an Associate Member. Such member shall be entitled to all rights and privileges of members except that they shall be ineligible to vote or hold office.

Section 4. Life Members: Life members shall retain all rights and privileges of members, but shall be excused from all dues and assessments. Life membership shall be conferred upon persons who have sustained membership for at least fifteen years including a minimum of five years as a Regular Member -and, who in the opinion of the Board and the membership, have demonstrated continued dedication to the profession and the Association and have made significant contributions on behalf of the Association~~by recommendation from the Board of Directors.~~ Such membership status is granted with the approval of 3/4 of the voting membership at the annual business meeting.

Section 5. Emeritus Members: Any member meeting the following requirements may be proposed for Emeritus status by the *Membership Committee*. The member must:

- A. be at least fifty five (55) years of age
- B. be retired from full-time forensic work
- C. have been a full dues paying member of the Association for a minimum of ten (10) years
- D. Members holding Emeritus status shall retain all rights and privileges of members, but shall be excused from all dues and assessments.
- E. A member may apply for Emeritus status at any time during the year by submitting a request to the Membership Chair. Those applying for Emeritus status shall be provisionally excused from all dues and assessments beginning at the time their request is received. If the Emeritus status of a member is not approved, the member shall be responsible for the current years' dues.
- F. Emeritus status shall be conferred by recommendation from the *Membership Committee* with the approval of 3/4 of the voting membership at the annual business meeting.
- G. Once Emeritus status is conferred, the member shall be eligible to continue their ~~emeritus~~ Emeritus status and receive publications free of charge on an annual basis as long as they continue to meet the Emeritus requirements.

Section 6. Student Affiliate (Student Non-Members): Students shall be permitted to attend the Annual Meeting of the Corporation (NEAFS) for a discounted fee to be determined by the Board of Directors. The students must:

- A. Not be a NEAFS member or active applicant
- B. Not be employed in a forensic science laboratory
- C. Be enrolled full time at an accredited college or university in a forensic science or related program
- D. Provide proof of enrollment
- E. It is understood that, in connection with the implementation of this policy:
 - 1. ~~That~~ the walk-in fee does not entitle students, taking advantage of it, to any meals for which others have paid. Meals are allowed at the discretion of the Board of Directors/President Elect.
 - 2. ~~That~~ this policy is in no way intended to discourage students from becoming members, nor should it be so construed by students or by faculty, chairpersons or program directors within academia.

Section 7. Any member may apply to the Membership Committee for a change in his/her membership status. Membership shall not be transferable or assignable.

Section 8. Fees and Dues: Annual dues for Associate and Regular Members; ~~and Application application fees for membership; and Registration fees for Members, Associate Members, Active Applicants, Student Affiliates and Non-Members to attend the Annual Meeting,~~ shall be set by the Membership of the Corporation (NEAFS). Registration fees for Members, Associate Members, Active Applicants, Student Affiliates and Non-Members to attend the Annual Meeting shall be set by the Board of Directors.

- A. An Active Applicant is an Applicant whose completed application has been received by the Membership Committee Chairperson for consideration by the deadline set forth by the Membership Chairperson.
- B. The Board of Directors considering reports of the Treasurer; the Membership Committee Chairperson; the Site Chairperson; or any Member, may recommend changes in the membership fees and annual dues schedule to the Membership.
- C. Any recommended change(s) to annual dues and membership fees will be presented to the Membership for a vote at the Annual Business meeting. Changes will be effected by approval of a majority of Members present and voting at the Annual Business meeting.
- D. There will be no charge to attend the Annual Business Meeting.
- E. The President Elect considering reports of the Treasurer; the Membership Committee Chairperson; the Site Chairperson; or any Member, may recommend changes in the Annual Meeting registration fees to the Board of Directors.
- ~~D-F.~~ Any recommended change(s) to registration fees will be effected by approval of a majority-2/3 vote of the Board of Directors.

Section 9. Termination of Membership.

- 1. Any member may resign his/her membership in the Corporation by written request directed to the Membership Committee Chairperson. The Board of Directors will inform the membership at the next Annual Meeting. A member who has resigned in this manner shall be entitled to reapply to the Membership Committee for reinstatement without penalty. Such reinstatement shall be contingent upon re-election by a 3/4 vote of the membership at the Annual Business Meeting.
- 2. Membership will be terminated at the discretion of the Board of Directors upon information supplied by the Membership Committee Chairperson that the member has failed to pay prescribed dues or assessments by the Annual Business Meeting. ~~—A~~ member who has been terminated for failure to pay prescribed dues or assessments shall be entitled to reapply to the Membership Committee for reinstatement. Such reinstatement shall be contingent upon re-election by a 3/4 vote of the membership at the Annual Business Meeting and payment of a penalty equal to one year of dues.
- 3. A member may be suspended or expelled from the Corporation for any violation of the NEAFS Code of Ethics-, or conduct detrimental to the profession and/or the Corporation. Any person may initiate proceedings concerning unethical behavior by filing charges with the Ethics Committee in writing. Any person with membership in the Corporation may institute proceedings concerning conduct detrimental to the Corporation by filing written charges with the Ethics Committee. Any member so charged shall be notified as soon as possible, and shall be allowed to be present during the hearing on the charges against him/her.
- 4. A member will be expelled from the corporation following his/her conviction of a criminal offense.
- 5. A member may be expelled from the Corporation upon recommendation of the Ethics Committee or the Board of Directors, and a 3/4 vote of the membership at the Annual Business Meeting.

~~5-6.~~ Penalties can be waived at the discretion of the Board of Directors in extenuating circumstances. Penalty exemptions require approval by majority 2/3 vote of the Board of Directors.

Article VII, Officers, Board of Directors and Executive Staff Members:

Section 1. The Officers and Board of Directors of this Corporation shall be the President, President-Elect, Secretary, Treasurer, and three (3) Directors.

Section 2. Officers: Description, Duties and Terms of Office

1. President: Chairperson of the Board of Directors. Chief representative of the Corporation. Shall preside over business meetings. Appoints committees, and shall execute with the Secretary all official organizational business. Empowered to sign checks. Term: One Year
2. President-Elect: Shall act in place of the President in the case of temporary absence or disability of the President. Shall be program Chairman for the annual meeting. Empowered to sign checks. Elected by the membership. Term: One Year, after which, succeeds to the Presidency.
3. Secretary: Keeps and publishes minutes of all Board of Directors and membership meetings. Empowered to sign checks. Elected by the membership. Term: Two Years.
4. Treasurer: Receives all monies due the Corporation, and keeps accurate records of all transactions. Presents a statement twice yearly to the Board of Directors. Prepares the annual budget for presentation at the annual meeting, and reports the previous year's financial transactions at the annual meeting. All monies shall be deposited in a bank authorized by the Board of Directors as soon as possible and reasonable. Files the Corporation's annual taxes. Empowered to sign checks. Elected by the membership. Term: Two Years.
5. Directors: Help maintain information exchange within the Corporation. Elected by the membership. Term: One Year.

Section 3. Executive Staff Members: Description, Duties, Terms of Office and Method of Selection.

1. Awards Committee Chairperson: Review scholarship/award applications, bestow scholarships/awards to best fit applicants, and present said awards recommendations to the Board of Directors. Elected by approval of 2/3 vote of the Board of Directors with the President having two (2) votes. Term: One year.
2. Certification Chairperson: Liaison between the Board of Directors and the American Board of Criminalistics and/or other certifying organizations. Elected by approval of 2/3 vote of the Board of Directors with the President having two (2) votes. Term: Three years.
3. Corporate Liaison: Serves as the liaison between the corporate sponsors and the Corporation. Provides reports to the Board of Directors and Treasurer as needed. Elected

by approval of 2/3 vote of the Board of Directors with the President having two (2) votes.

Term: Three Years

4. Education Committee Chairperson: Investigates, organizes and oversees educational opportunities for the membership. Elected by approval of 2/3 vote of the Board of Directors with the President having two (2) votes. Term: One year.
5. Ethics Committee Chairperson: Oversees and organizes the investigation of any ethical violations or concerns within the organization and its membership. The most senior Past President currently serving on the committee. Term: One year.
6. Executive Secretary: Maintains membership files, committee reports and Corporation (NEAFS) business. Files copies of incoming and outgoing correspondence. Serves as Chairperson of the Election Committee. Receives and tabulates all ballots regarding elections and other Corporation (NEAFS) votes. Elected by approval of 2/3 vote of the Board of Directors with the President having two (2) votes. Term: One Year.
7. Membership Committee Chairperson: Acts as Chairperson of the Membership Committee and presents recommendations to the Board of Directors and to the membership. Notifies the membership, in advance, of the names and affiliations of applicants and membership re-instatements to be voted on for membership at the Annual Meeting. Notifies the membership, in advance, of the names of members to be terminated for unpaid dues/assessments. Elected by approval of 2/3 vote of the Board of Directors with the President having two (2) votes. Term: ~~One-Three~~ Years.
8. Merchandise Chairperson: Has the responsibility of overseeing the sales and distribution of NEAFS merchandise. Provides reports on the merchandise sales to the Board of Directors and Treasurer as needed. Elected by approval of 2/3 vote of the Board of Directors with the President having two (2) votes. Term: One Year
9. Past President: To be filled by the immediate past President if he/she is willing and able to serve; otherwise, to be filled by another past President elected by approval of 2/3 vote of the Board of Directors. Serves as a member of the Ethics Committee. Duties to be assigned by the Board of Directors. Term: One Year.
10. Publication Chairperson: Has the responsibility of communicating to the members those matters prescribed in the by-laws and as directed by the Board of Directors. The manner of this communication with the members to be determined by the Board of Directors. Notifies the membership of meetings. Elected by approval of 2/3 vote of the Board of Directors with the President having two (2) votes. Term: One Year.
11. Registration Chairperson: Has the responsibility of overseeing registration for the annual meeting and any other events when necessary. Provides reports to the Board of Directors as needed. Elected by approval of 2/3 vote of the Board of Directors with the President having two (2) votes. Term: Three Years
12. Site Chairperson: Investigates potential sites for annual meetings and presents recommendations to the Board of Directors. Negotiates and signs contracts with selected hotels for the Corporation as directed by the Board. Serves as a liaison between the hotel and the Corporation during the annual meeting and coordinates and monitors all contracted hotel services. Elected by approval of 2/3 vote of the Board of Directors with the President having two (2) votes. Term: Three Years.

Section 4. Board of Directors

1. The Board of Directors shall be composed of the officers specified in Section 1 of Article VII, and shall have the power to assign functions to each officer for the advancement of the Corporation within the purview of their duties, and that such assignments shall be reviewed by the membership at the next annual meeting, where appropriate.
2. Shall meet at least twice each year, once being at the annual membership meeting.
3. Shall act as a Resolutions committee for the annual meeting, setting guidelines for the presentation of resolutions.
4. Shall be responsible for audit of financial records, either personally, or by an outside concern, and shall present said audit to the membership ~~for ratification.~~
5. Shall present a budget to the membership for ratification by ~~a 2/3 majority vote~~ of the voting membership at the annual meeting.
6. Shall recommend changes in these by-laws.
7. Vacancies on the Board of Directors to be filled by election by the remaining Board members for the remainder of the term of the vacated Board member; except that, in a presidential vacancy, the President-Elect shall accede to the Presidency; in addition, in a Presidential-Elect vacancy, the member filling the vacancy shall not accede to the Presidency, but a special election shall be held for President at the expiration of the interim President-Elect's term.
- ~~7-8.~~ Executive Staff Member terms may be reduced at the discretion of the President should vacancies on the Board of Directors permit.
- ~~8-9.~~ Other meetings of the Board of Directors will be held at the request of the President, or any three other Board members.
- ~~9-10.~~ A majority of the officers shall constitute a quorum and shall be entitled to conduct business at Board of Directors meetings.

Section 5.

The Board of Directors shall have full power and authority to borrow money on behalf of the Corporation, including the power and authority to borrow money from any of the members or officers of the Corporation, and otherwise to incur indebtedness on behalf of the Corporation and to authorize the execution of promissory notes, or other evidences of indebtedness of the Corporation, and to agree to pay interest thereon, to sell, convey, alienate, assign, exchange, lease and otherwise dispose of, mortgage, pledge, hypothecate, and otherwise encumber the property, real and personal, and the franchises of the Corporation; to purchase, lease and otherwise acquire property, real and personal, on behalf of the Corporation; and generally, to do and perform every act which the Corporation may lawfully do and perform, provided that said total indebtedness of the Corporation shall not exceed the following year's anticipated income.

Section 6.

The Board of Directors and executive staff members of this Corporation shall serve without compensation, except their actual expenses, unless additional compensation has been budgeted and approved by the membership. The Board of Directors may authorize the Treasurer, by a 2/3 vote, to pay up to a \$5000 non-budgeted expense if it can be considered a regular expense of doing business. The Treasurer shall make such payments thus authorized by the Board of Directors, and those payments approved by the membership within the budget, or by a special

vote of 2/3 of the membership. The Board of Directors shall provide a suitable seal for the Corporation. The fiscal year for the Corporation shall be January 1 through December 31.

Section 7.

The Board of Directors may, by vote, remove from office, for any cause, any Director who has failed to perform, in a reasonable manner, the duties of his/her office as outlined in the by-laws, or as reasonably directed by the Board. Removal is effected by a 3/4 vote of the ~~directors~~ Directors not charged, present and voting. A minimum of four votes in favor of removal must be cast. A removal proceeding, may be initiated by any regular member of the Corporation with proper notice and an opportunity to speak and/or be represented being given to the Director so charged. Charges must be filed in writing with the President and with the Executive Secretary.

Article VIII, Standing Committees:

Section 1. Awards Committee: To be composed of a chairperson appointed by the Board of Directors. The chairperson shall appoint committee members as he/she sees fit.

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Section 2. Certification Committee: To be composed of a chairperson appointed by the Board of Directors. The chairperson shall appoint committee members as he/she sees fit.

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Section 3. Education Committee: To be composed of a chairperson appointed by the Board of Directors. The chairperson shall appoint committee members as he/she sees fit.

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Section 4. Elections Committee: Elections to be chaired by the Executive Secretary, and two others appointed by the Board of Directors.

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Section 5. Ethics Committee: To be composed of three most recent Past-Presidents, appointed to three-year terms, the terms to be staggered.

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Section 6. Membership Committee: To be composed of a chairperson appointed by the Board of Directors. The chairperson shall appoint committee members as he/she sees fit.

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Section 7. Nominations Committee: To consist of the President (the Committee Chair), the President-Elect, and three other persons not on the Board of Directors, but appointed by the Board of Directors.

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Section 8. Publications Committee: To be composed of a chairperson appointed by the Board of Directors. The chairperson shall appoint committee members as he/she sees fit.

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Section 9. Resolution Committee: To consist of the Board of Directors.

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Article IX, Special Committees:

Special Committees may be established by the Board of Directors, their duties and power to be described.

Article X, Trustees:

The Board of Directors, with the approval of 3/4 of the membership, may confer Honorary Membership and Trusteeship on celebrated individuals, who have shown themselves to be interested in the advancement of the Corporation and of forensic science, and who have endeavored to assist the Corporation in achieving its goals.

Article XI, Governance of Meetings:

Meetings of the Board of Directors and of the Corporation, shall be governed ~~by Robert's Rules of Order, Revised~~ at the discretion of the President, having the authority to oversee discussions and disputes, unless otherwise stated in these by-laws.

Article XII, Meetings:

The general membership meeting will be held annually in the Fall of each year in a location to be determined by the Board of Directors. Five percent (5%) of the voting membership shall constitute a quorum.

Article XIII, Voting:

Voting will be carried out either by mail, email or in person, and all majorities herein referred to shall mean a majority of votes cast, with five percent (5%) of the voting membership, ~~by mail~~, being a quorum.

Article XIV, Elections:

Section 1. Nominations:

1. The Nominating Committee will propose a slate of officers to the Board of Directors at the Board Meeting at the annual meeting.
2. The slate will be announced to the Membership at the Annual Business Meeting.
3. Additional nominations can be proposed from the membership by a petition of 20 members, or 10% of the voting membership, whichever is less.
4. Nominations must be presented to the Chair of the Nominating Committee within 30 days of the Annual Business Meeting.

Section 2. Elections:

1. If additional nominations are received by the Nominating Committee, an Election will be held by mail or email.
2. Election will be by a plurality of the votes cast.
3. If no additional nominations are received, the slate proposed by the Nominating Committee will become effective January 1.
4. The new officers will be announced in the first newsletter after January 1.
5. Terms of office are January 1 through December 31.

Article XV, Order of Business at the Annual Meeting:

Section 1. The Order of Business at the Annual Meeting shall be as follows:

1. Opening
2. Roll call of officers and staff
3. Review of the Minutes of the previous meeting
4. Reports of Standing Committees
 1. Membership Committee and voting on new members
 2. Nominations Committee
 3. Ethics Committee
 4. Elections Committee
 5. Publications Committee
 6. Resolutions Committee
 7. Reports of other Committees
 8. Report of the Treasurer on previous year's expenditures
 9. Ratification of the audit
 10. Presentation and ratification of the budget
 11. Old/Unfinished business
 12. New Business
 13. Report of the President
 14. Adjournment

Article XVI, Education Fund:

~~Section 1. The Treasurer is directed to explore investment vehicles for the Education Fund which offer the advantages of safety, liquidity and high rates of return; and that the Treasurer invest the Education Fund in an appropriate manner, consistent with the above criteria, after having received authority from the full Board to do so.~~

Section 21. ~~Funds from the investment of the~~ Education Fund may be utilized to provide a scholarship for deserving full-time or part-time students enrolled in a forensic science or a related science program at an accredited institution of higher education located within the region served by the Corporation in accordance with the following rules and guidelines:

1. That the scholarship may be given as frequently as once per year, but need only be given at the discretion of the Board.
2. That the scholarship be available to full-time undergraduate students who are in their Junior or Senior year at the time of the application; and/or to graduate students who are enrolled in a part-time or full-time program at the time of the application.
3. That the Scholarship Nominations will be solicited through the NEAFS Newsletter and/or by informational mailings to Colleges and Universities within the region served by the Corporation. The solicitation period and application deadline date for this award will be determined by the Awards Committee (~~Article VIII, Section 1~~) ~~with the approval of the Board of Directors.~~
4. That the Awards Committee develops specific criteria for the scholarship and publishes them along with the solicitation for nominations. The Awards Committee will rely on, but not be limited to, the applicant's academic course record, letter(s) of recommendation from an instructor or a professor familiar with the applicant's academic/research work,

and a letter from the applicant describing their personal goals, achievements, and reasons for award consideration.

~~5. That the scholarship award program be implemented in calendar year 1984.~~

Article XVII, Bonds:

~~The Treasurer shall be bonded by a recognized agent for a sum to be determined by the Board of Directors. The Board of Directors may also require bonding of other officers or members, the cost of such bonding to be paid by the Corporation.~~

Article XVIII, Amendments to the By-Laws:

Amendments to these by-laws must be proposed in writing to the Resolution Committee at least three months prior to the annual meeting. The Resolution Committee shall publish the ~~resolution~~ amendment(s) before the meeting, and then report at the meeting that the resolution(s) has been approved, disapproved committed, or that no action has been taken. A 3/4 vote of the membership at the annual business meeting may over-rule the Resolutions Committee and cause a different action to be taken. The Board of Directors may also propose changes in the by-laws by mail (or email), and such changes may be effected by a 3/4 vote of the membership by mail (or email).

Article ~~XXXXVIII~~, Dissolution of the Organization:

"In the event of and upon the dissolution of the Corporation, the Board of Directors shall, after paying or making provision for the payments of all the liabilities of the Corporation, dispose of all of the assets of the Corporation exclusively for the purposes of the Corporation in the following manner: by equal awards to each and every accredited University and/or College in the geographical area of this Corporation which offers a degree program in forensic science. However, if it should be impossible to so dispose of these funds as stated, then the assets shall be donated to an organization whose charitable, educational or scientific purposes shall at that time qualify as an exempt organization or organizations under Section 501 (3) of the Internal Revenue Code of 1954 as the Board of Directors shall determine."

PROCESSES ✓

EQUIPMENT ✓

PERSONNEL ✓

STANDARDS ✓

ENVIRONMENT ✓

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Northeastern Association of Forensic Scientists

2015 Annual Meeting Update

Resort & Conference Center at Hyannis, MA



Maricopa County Sheriff Joe Arpaio and Inspector Andrew Rivas – Mail bomb case study to be presented during this year's Plenary Session

By the time you read this message there will be less than two weeks before I see many of you for the 41st NEAFS Annual Meeting. The Program is complete, the Meeting Booklet is off to the printer, and shopping for Masquerade masks for the Murder Mystery Dinner is underway! Have you gotten the feeling that dressing up for this event is encouraged (but by no means required)? Speaking of the Murder Mystery Dinner, I want to clarify that a ticket is required for the dinner show Friday evening and can be purchased up until the day of the show. Head on over to www.neafs.org to purchase a ticket in advance using PayPal by October 2nd, otherwise, you can stop by the Registration Booth onsite to buy your ticket. We will continue with the President's Reception immediately following the show, which should end around 9pm. Anyone who is unable to join us for dinner can stop by at that time, and no ticket is required to enjoy the late night festivities of dancing, mingling, and giveaways.

There are still spaces available for anyone interested in registering for a Workshop. I hope you take this opportunity to attend one, especially at the low cost they are being provided at. Our Session Chairs have done a phenomenal job of filling our Technical Sessions. They have contacted each of their presenters with the schedule for the day. If for some reason you

submitted a Call for Papers and you have NOT been contacted, please email me at presidentelect@neafs.org to let me know so I can ensure we received your abstract submission.

If you are attending the conference and will be present during the Business Meeting Luncheon on Thursday, bring your SMILE, as we will be having a group photo taken prior to the start of the meeting😊

Students attending the meeting who haven't already entered into the Kirk Cup Competition are encouraged to contact either George Chin at lpching@gw.njsp.org or Christopher Chany at Christopher.chany@dps.texas.gov to register your school! You'll want the chance to get your hands on that Trophy!

To mix a little work with pleasure, a tour of the Cape Cod Beer microbrewery is being organized, more details to come once we are able to finalize specifics.

If you haven't reserved your room, please do so by calling the group reservations office at (866) 828-9111. If you are looking to share a room to save on costs, please contact our Site Chair, Janine Kishbaugh at sitechair@neafs.org, and we will try and coordinate with those interested.

See you all in a few weeks!

Erica Nadeau

2015 Program Chair



Northeastern Association of Forensic Scientists 2015 Annual Meeting



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October 13th-17th, 2015

Enjoy an extra day with the family down on the Cape for the Columbus Day Holiday, Monday, October 12th. Just in time for the Fall Foliage season!

Hyannis, MA



Starbucks Coffee
Mulligans Restaurant
Martini and Piano Bar
Start the mornings off right and end them in style!



Indoor Heated Pool
Aveda Hair Salon and Spa
Golf Course
Atlantis Sports Club



Accommodations
\$109.00 / night - single/double
\$119.00 / night - triple/quad
(Please note MA occupancy tax - currently 11.7%)

WELCOME TO CAPE COD!

RESTAURANTS

- Baxter's Boathouse Club & Fish-N-Chips
- Captain Parker's Pub
- Rendezvous Café and Creperie
- Spanky's Clam Shack
- Mattakeese Warf Waterfront
- The Little Sandwich Shop
- Raw Bar on Ocean Street
- Chauncy's Bar and Grille
- The Little Sandwich Shop
- Black Cat Tavern
- Grand Cru Wine Bar + Grill
- Cape Cod Creamery



BEACHES

- Craigsville Beach -- Craigsville Beach Road, Craigsville
- Kalmus Park Beach -- Ocean Street, Hyannis
- Orrin Keyes Beach -- Sea Street Hyannis
- Veterans Park Beach -- Ocean Street, Hyannis
- Sandy Neck Beach, Off Route 6A, West Barnstable
- Hathaway's Pond, Phinney's Lane, Barnstable
- Nauset Beach, Orleans

SIGHTS OF INTEREST

- Cape Cod Beer
- Cape Cod Potato Chip Factory
- Cape Cod Central Railroad
- Arts Foundation of Cape Cod
- Cahoon Museum of American Art
- Cape Cod Baseball League Hall of Fame and Museum
- Cape Cod Maritime Museum
- Cape Cod Museum of Natural History Museum
- Heritage Museums & Gardens
- John F. Kennedy Hyannis Museum
- Plymouth Plantation
- Poor Man's Art Gallery
- Truro Vineyards of Cape Cod
- Martha's Vineyard and Nantucket

SHOPPING

- Hyannis Main Street
- Mashpee Commons
- Cape Cod Mall
- Boarding House Surf Shop

GOLF

- Twin Brooks Golf Course
- Hyannis Golf Course
- Old Barnstable Fairgrounds Golf Course

HIKING/RUNNING

- MA Audubon Long Pasture Wildlife Sanctuary
- Sandy Neck Great Salt Marsh Conservation Area
- Cape Cod Pathways Trail
- Cape Cod Rail Trail

Practical Consideration for LC/MS in the Toxicology Laboratory

Workshop offered as part of the Annual Meeting
of the Northeast Association of Forensic Scientists

Wednesday, October 14th - Resort and Conference Center - 35 Scudder Avenue Hyannis, MA

8:00-8:15 - **Arrival and Registration**

8:15-8:30 - **Introduction**

8:30-9:30 - **Sample Preparation Strategies for Opioid and Expanded Toxicology Panels in Urine**

Jonathan P. Danaceau, PhD, Sr. Application Chemist, Waters Corporation, Milford MA

This presentation will cover sample preparation and UPLC/MS/MS analysis strategies for opioids in urine, along with tactics for the simultaneous analysis of more inclusive panels of drugs. Subjects covered will include direct and enzymatic hydrolysis approaches, as well as the advantages of solid phase extraction (SPE) over "dilute and shoot" methodologies.

9:30-10:30 - **Sample Preparation and Chromatographic Strategies for the Analysis of Designer Drugs in Urine and Whole Blood**

Jonathan P. Danaceau, PhD, Sr. Application Chemist, Waters Corporation, Milford MA

Designer drugs such as synthetic cannabinoids and synthetic cathinones (Bath Salt) represent an increasing challenge for forensic toxicologists. New variations of these drugs are constantly being introduced in an effort to circumvent existing legislation. Strategies for the extraction and analysis of these compounds will be presented, emphasizing solid phase extraction approaches for forensically relevant matrices such as urine and whole blood.

10:30-10:45 - Break

10:45-12:00 - Case Study - **Application of Liquid Chromatography High Resolution Mass Spectrometry for Comprehensive Screening and Unknown Drug Identification in Subjects at an Electronic Dance Music Festival Event.**

Dr. Barry Logan, Vice President of Forensic Sciences/Chief of Forensic Toxicology, NMS Labs, Willow Grove PA

Over the course of two years, biological samples (126 blood samples, 226 urine samples, 330 oral fluid samples) were obtained from 396 EDM attendees at a festival event in Miami, FL, and analyzed for evidence of common therapeutic and recreational drugs as well as emerging novel psychoactive substances.

Analytical screening methods in blood, urine and oral fluid were developed and validated using liquid chromatography quadrupole time of flight mass spectrometry (LC-QTOF) (Waters® Acquity UPLC IClass Xevo® G2-S QTOF, with UNIFI™ 1.7 software). Structural elucidation of known and novel metabolites was also accomplished on this platform. In the course of this validation, a library of therapeutic, recreational and emerging NPS drugs and their metabolites was developed.

Using Liquid Chromatography Tandem Mass Spectrometry (LCMSMS) (Waters® Acquity Quattro-Micro®), quantitative confirmatory methods in blood and oral fluid were developed and validated for THC and metabolites, synthetic cathinones, and common drugs of abuse encountered in the LC-QTOF screens. All validations followed SWGTOX guidelines. Synthetic cannabinoid screening by LCMSMS (Waters® Acquity UPLC, TQS) was also employed.

Questions?

Contact Aviva deBeer- Heidt at 646-402-1048, or via email at aviva_debeer-heidt@waters.com

BUY YOUR TICKET BEFORE THEY RUN OUT!

Murder Mystery Dinner and President's Reception

Friday October 16th from 5:30 pm – 8:30 pm

DJ Jim Wesley, Dancing and Giveaways immediately following the show



WHAT TO WEAR TO A MASQUERADE BALL

- VENETIAN MASKS
- TUXEDOS/SUITS
- MAKEUP MASKS
- BALL GOWNS
- FORMAL MASQUERADE DRESSES
- FEATHER HAIR PIECES



- EXAMPLES:
- PHANTOM OF THE OPERA
 - DISNEY'S ENCHANTED
 - ROMEO AND JULIET
 - MAN IN THE IRON MASK
 - LABYRINTH

BIOCHIP ARRAY TECHNOLOGY

LESS PROCESS MORE PROFILE



Forensic Science Alumni Reception

*Thursday, October 15, 2015
5:30 - 7 p.m. | Hyannis, MA*



University of New Haven

Join us to discuss your careers, network and socialize with fellow University of New Haven forensic science graduates.

**NEAFS Annual Meeting
Educator's Forum
Saturday, October 17, 2015**

Moderators: John Drawec and Jim Wesley

Agenda

9:00-9:10	Welcome / Opening Remarks	John Drawec Jim Wesley
9:10-9:30	NEAFS Role in Training and Education	John Drawec Jim Wesley
9:30-9:50	Putting the pieces of the academic puzzle together – where do criminal justice and forensic science intersect?	Sarah Stein John Drawec
9:50-10:30	Future Forensic Scientists: A Path To Success	Scott Rubins
10:30-10:45	Break	
10:45-11:00	Enhanced Powerpoint for Interactive Training	Jim Wesley
11:00-11:20	Writing in FS Education	Sandra Haddad, Adrian Garcia Segal
11:20-11:45	Certifications	Jim Wesley
11:45-12:30	Open Discussion	

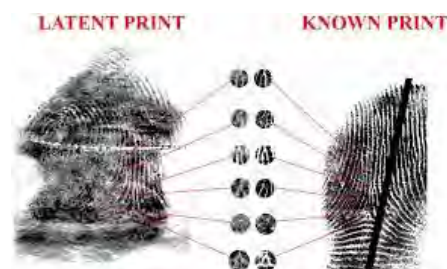
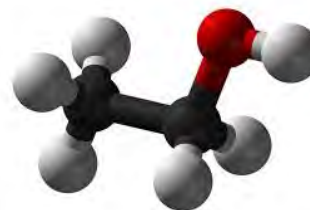
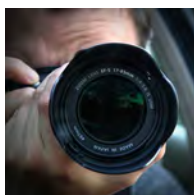
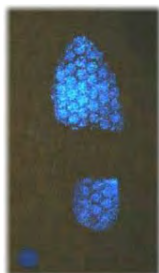
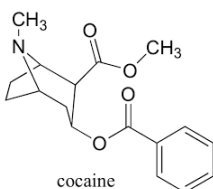
“Kirk Cup”

NEAFS College Bowl

2015 NEAFS Annual Meeting

Teams of four students (three and an alternate) will compete in a quiz type game. While we are still working out the details if there are only two college teams they will compete against each other in a GE College Bowl format. Both graduate and undergraduate teams are welcome and will compete for separate trophies. So get your team together, go to the bookstore and get a school pennant and enter. Entry deadline October 8th.

(Questions will cover all Forensic Disciplines)



**October 17, 2015 10:30AM,
Immediately following the Student Forum...**

Christopher P Chany
Texas Dept of Public Safety
512-424-2105
Christopher.chany@dps.texas.gov

George W Chin
NJSP Office of Forensic Sciences
609-584-5054 X5463
Lppching@gw.njsp.org



**Northeastern Association
of
Forensic Scientists**

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- Compendium: Analysis of Designer Stimulants (Bath Salts)

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Northeastern Association of Forensic Scientists

Membership Committee

Sheauling Kastor, *Chair*

Alanna Laureano, *Dues Contact*

Sherri Anderson

To: NEAFS Board of Directors
From: Sheauling Kastor, Membership Committee Chair
Date: September 15, 2015
Re: NEAFS membership update

NEW MEMBER APPLICANTS

NUMBER	STATUS	FULL NAME	AFFILIATION
1846	Regular	Vy Pak	Suffolk County Crime Laboratory
1847	Regular	Ellen Conlon	CT Dept of Emergency Services - Div of Forensic Services
1848	Associate	Ashley Dart	Union County Prosecutor's Office - Forensic Laboratory
1849	Regular	Reena Roy	Penn State University
1850	Associate	Lori Ana Bromberg	New York State Police
1851	Associate	Samantha J. Romanyk	New York State Police
1852	Regular	Melissa A. Johns	New Jersey State Police OFS
1853	Associate	Ashley Chapman	NYPD Laboratory - Controlled Substances Unit
1854	Associate	Kara M. Galinsky	NYPD Laboratory - Controlled Substances Unit
1855	Associate	Kari M. Midthun	New York State Police - Forensic Investigation Center
1856	Associate	Jennifer R. Robisheaux	State of CT, Division of Scientific Services
1857	Regular	Sarah A. Keeling	NMS Labs
1858	Associate	Kristen A. Elsner	Massachusetts State Police Crime Laboratory
1859	Regular	Kristin L. Bourque	Massachusetts State Police Crime Laboratory
1860	Regular	Kimberly A. Michalik	New Jersey State Police OFS
1861	Associate	Nevin J. Vigneault	Massachusetts State Police Crime Laboratory
1862	Regular	Brenda L. Wieczynski	New York State Police Forensic Investigation Center
1863	Regular	Daniel J. Harrington	Suffolk County Crime Laboratory
1864	Regular	Andrew J. Winter	Middlesex County Prosecutor's Office
1865	Regular	Jennifer A.P. Paris	New Hampshire State Police Forensic Laboratory
1866	Regular	Candice C. Aiken	New Hampshire State Police Forensic Laboratory
1867	Regular	Anna K. Weaver	New Hampshire State Police Forensic Laboratory
1868	Regular	Michael P. Rickenbach	State of CT, Division of Scientific Services
1869	Associate	Brynn T. Vitrano-Stocker	Suffolk County Crime Laboratory
1870	Associate	Joelle A. Lopez	Westchester County Forensic Laboratory
1871	Associate	Clare M. Fried	Cedar Crest College
1872	Regular	Leslie A. Nolan	RI Dept. of Health Laboratories - Forensic Drug Chemistry
1873	Regular	Michelle Levasseur	Massachusetts State Police Crime Laboratory
1874	Associate	Chandler M. Grant	Cedar Crest College
1875	Regular	Greg Danas	G&G Firearms Experts Inc.
1876	Regular	Cheryl Moorhead	New York State Police Forensic Investigation Center

1877	Regular	Camille A. Stewart	NYC OCME
1878	Associate	Robert M. Almeida	RI Department of Health Laboratories
1879	Associate	Emily E. Prisaznik	Cedar Crest College
1880	Associate	Aisha G. Eckroth	Cedar Crest College
1881	Regular	Kimberly A. Dunlap	Massachusetts State Police Crime Laboratory
1882	Regular	Lewis H. Gordon	Forensic Evidence, Inc.
1883	Associate	Xiao Shan Law	John Jay College of Criminal Justice
1884	Regular	Sharon A. Salem	Massachusetts State Police Crime Laboratory
1885	Regular	Patrick D. Carney	NYC OCME
1886	Associate	Marie D. Messina	Long Island University
1887	Regular	Lisa G. McFarland	U.S. Customs and Border Protection, NY Laboratory
1888	Associate	Leonard Lim Lee	John Jay College of Criminal Justice
1889	Regular	Elana J. Quinones-Conant	Cedar Crest College
1890	Regular	Tara L. Burnette	CT Dept of Emergency Services - Div of Forensic Services
1891	Associate	Emily A. Williamson	Cedar Crest College
1892	Regular	Stephanie M. Taggart	CT Dept of Emergency Services - Div of Forensic Services
1893	Regular	David J. Nemeth	Monroe County OCME
1894	Regular	Jennifer G. Nabozny	CT Dept of Emergency Services - Div of Forensic Services
1895	Regular	Thomas F. Diego, Jr.	New York State Police Forensic Investigation Center
1896	Regular	Tiffany M. Montero	New York State Police
1897	Regular	Jessica R. Harris	VA Department of Forensic Science Northern Laboratory
1898	Regular	Crystal Washington	Yonkers Police Department Forensic Laboratory
1899	Regular	Jennifer Y. Rosati	John Jay College of Criminal Justice
1900	Associate	Erika M. Anderson	Bay Path University
1901	Associate	Jorge L. Batista Jr.	Bay Path University
1902	Associate	Daniel J. DeWees	Bay Path University
1903	Associate	Xochitl A. Esquivel-Gomez	Bay Path University
1904	Associate	Katherine E. Flewelling	Bay Path University
1905	Associate	Maria M. Hill	Bay Path University
1906	Associate	Jasmine L. Kerstetter	Bay Path University
1907	Associate	Maggie M. Levesque	Bay Path University
1908	Associate	Kristie R.A. McLaughlin	Bay Path University
1909	Associate	Cherie L. Reynolds	Bay Path University
1910	Associate	Alexaundrea J. Serwecki	Bay Path University
1911	Associate	Patricia DeOliveira-Squitiero	Bay Path University
1912	Associate	Brittany J. Walker	Bay Path University
1913	Associate	Katheryn Nottoli	Bay Path University
1914	Associate	Natalia Dyrkacz	Bay Path University

REINSTATEMENTS AND UPGRADES

NUMBER	STATUS	FULL NAME	AFFILIATION
1021	Reinstatement to Regular	Mechthild K. Prinz	John Jay College of Criminal Justice
1168	Reinstatement to Regular	Jennifer J. Preisig	Massachusetts State Police Crime Laboratory
1369	Reinstatement to Regular	Christina F. Atrouni	Monroe County Crime Lab
1070	Reinstatement to Regular	Pasquale Buffolino	Nassau County OCME
1450	Reinstatement to Associate	Timothy Starn	West Chester University of PA
1725	Reinstatement to Associate	Kristen J. Head	Westchester County Dept. of Labs/Research

122	Upgrade to Emeritus	Steven M. Sottolano	Retired
674	Upgrade to Emeritus	John R. Graziano	Orange County Dept of Environmental Health
1616	Upgrade to Regular	Darrin C. Pelerin	NY State Police Forensic Investigation Center
1630	Upgrade to Regular	Michelle Mercer	Monroe County Crime Lab
1581	Upgrade to Regular	Alicia M. Duszak	NY State Police Forensic Investigation Center
1756	Upgrade to Regular	Khadija Harris	NYC OCME
1596	Upgrade to Regular	Matthew J. Marino	New Jersey State Police OFS
1628	Upgrade to Regular	Christina C. Owen	Massachusetts State Police Crime Laboratory
1792	Upgrade to Regular	Claire L. Rimkus	Massachusetts State Police Crime Laboratory
1775	Upgrade to Regular	Brittany S. Fox	Massachusetts State Police Crime Laboratory
1784	Upgrade to Regular	Keri L. LaBelle	Massachusetts State Police Crime Laboratory
1740	Upgrade to Regular	Rebecca H. Daner	Massachusetts State Police Crime Laboratory
1423	Upgrade to Regular	Michael A. Duschenchuk	Nassau County OCME
1718	Upgrade to Regular	Monica Joshi	West Chester University of PA
1840	Upgrade to Regular	Kimberly N. Deo	New Jersey State Police OFS
1680	Upgrade to Regular	Elizabeth Duval	Massachusetts State Police Crime Laboratory
1767	Upgrade to Regular	Rebecca L. Mead	Vermont Forensic Laboratory
1566	Upgrade to Regular	Meredith S. Becker Christopher M.	NY State Police Forensic Investigation Center
1413	Upgrade to Regular	McDonough	NY State Police Forensic Investigation Center
1396	Upgrade to Regular	Andrew J. Schweighardt	NYC OCME
1550	Upgrade to Regular	Nicole J. King	Westchester County Forensic Laboratory
1537	Upgrade to Regular	Melissa A. France	NY State Police Forensic Investigation Center
1741	Upgrade to Regular	Sarah E. Clark	Massachusetts State Police Crime Laboratory
1569	Upgrade to Regular	Alanna R. Laureano	Westchester County Forensic Laboratory
963	Upgrade to Regular	James Wesley	Monroe County Crime Laboratory

RESIGNATIONS

NUMBER	STATUS	FULL NAME	AFFILIATION
230	Emeritus	Michael J. Camp	Wisconsin State Crime Lab – Milwaukee, Retired
353	Regular	Richard T. Picciochi	

MEMBERS TO BE DROPPED (if payment is not received by Annual Meeting)

NUMBER	STATUS	FULL NAME	AFFILIATION
363	Associate	Anton Kristofic	West Chester University Pennsylvania State Police Crime Laboratory New Jersey State Police US Postal Inspection Service Forensic Laboratory Services NYPD Crime Lab Vermont Department of Public Safety NY State Police Forensic Investigation Center Customs and Border Protection NY State Police Forensic Investigation Center NYC Office of the Chief Medical Examiner Colorado Bureau of Investigation
416	Associate	Helen G. Reid	
503	Regular	Clyde Alfred Liddick, III	
510	Regular	Michele Nasello Roberts	
615	Regular	John F. Breslin	
781	Associate	Elizabeth Ziolkowski	
896	Regular	Bharat N. Lakhkar	
943	Regular	Margaret Schwartz	
947	Associate	Maria T. Mick	
1062	Associate	Matthew Joseph Marcoccia	
1118	Associate	Shannon L. Morris	
1182	Regular	David Fisher	
1289	Associate	Kristine Kadash	

1326	Associate	Patrick M. Keough	NH State Police Forensic Lab
1352	Regular	Michael Rieders	National Medical Services
1391	Regular	Cortney Boccardi	GE Healthcare, Life Science
1427	Regular	Hilary Griffiths	Massachusetts State Police Crime Laboratory
1528	Associate	Jennifer Skuches	DEA Northeast Laboratory
1580	Associate	Niyrai-Daun Hall	NYC Office of the Chief Medical Examiner
1607	Regular	Brian Hall	DEA Northeast Laboratory
1634	Associate	Henry Maynard	Booz Allen Hamilton
1673	Regular	Stacy Czarnowski	Massachusetts State Police Crime Laboratory
1715	Associate	Ryan Colbeth	Boston University School of Medicine
1745	Regular	Jennifer Ollock	NJSP Office of Forensic Science
1746	Regular	Gonul Kamfoi	NJSP North Regional Lab
1747	Regular	Tara Mayka	NJSP Office of Forensic Science
1778	Associate	Heidi Tincher	Genetic Services, Inc.
1788	Regular	Samantha Taylor	NYC OCME
1798	Associate	Samantha Mulhern	Western New England University
1804	Associate	Alex Schilling	University of New Haven
1807	Associate	Emily Fuller	University of New Haven
1808	Associate	Rachel Bower	Pennsylvania State University
1813	Regular	Vivan X. Chen	Bruker Daltonics
1815	Regular	Michelle Hunsinger	Monroe County Crime Lab
1817	Associate	Zachary Frieden	Byram Hills High School
1818	Associate	Veronica Cano	John Jay College
1824	Associate	Nathaniel Huddleston	Rochester Institute of Technology
1834	Associate	Kyleigh Higgins	Bay Path University

TOTALS:

Members in 2014-2015

Regular: 311

Associate: 161

Emeritus: 36

Life: 9

Total 514

New Members: 69

Upgrades: 25

Reinstatements: 6

Resignations: 2

Deceased: 1

To be Dropped: 38

This information will be published in the next newsletter as well as posted at the annual meeting.

The above report is respectfully submitted.

NEAFS needs your HELP to fill in the blanks!

Are you an award winner or know someone who was? If so, please contact Elizabeth Duval at awards@neafs.org with any additional information.

NEAFS Awards Winners

2014

George W. Neighbor, Jr. Undergraduate - Angelica Graver
George W. Neighbor Jr. Graduate - Heidi Campbell
Carol De Forest Research Grant - Emily Meyers
Meritorious Service Award – Pete Diaczuk

2013

George W. Neighbor, Jr. Undergraduate - Emily Fuller
George W. Neighbor, Jr. Graduate - Ashton Lesiak
Carol De Forest Research Grant - Rachel Bower
Meritorious Service Award – Vincent Desiderio

2012

George W. Neighbor, Jr. Undergraduate – Kaitlin Hafer
George W. Neighbor, Jr. Graduate - Daniel Hall
1st Carol De Forest Research Grant – Joseph Iacona
1st Meritorious Service Award – Ted Schwartz

2011

George W. Neighbor, Jr. Undergraduate – Elizabeth Sunderhaus
George W. Neighbor, Jr. Graduate - Kristen Johnson

2010

George W. Neighbor, Jr. Undergraduate – Jennifer Bonetti
George W. Neighbor, Jr. Graduate -

2009

George W. Neighbor, Jr. Undergraduate – Michelle Schmidt
George W. Neighbor, Jr. Graduate –

2008

George W. Neighbor, Jr. Undergraduate – Stacie Kaufman
George W. Neighbor, Jr. Graduate -

2007

George W. Neighbor, Jr. Undergraduate – Christina Mulligan
George W. Neighbor, Jr. Graduate -

2006

George W. Neighbor, Jr. Undergraduate – Kathryn O'Brien
George W. Neighbor, Jr. Graduate - Joel Stepanchick

2005

George W. Neighbor, Jr. Undergraduate – April McNearney
George W. Neighbor, Jr. Graduate - Evan Bernier

2004

George W. Neighbor, Jr. Undergraduate – Meghan Miller
George W. Neighbor, Jr. Graduate - Deborah Lark

2003

George W. Neighbor, Jr. Undergraduate – Annette Lopez
George W. Neighbor, Jr. Graduate – Kelley Corcoran

2002

George W. Neighbor, Jr. Undergraduate – John Kristofic (WEST CHESTER UNIVERSITY)
George W. Neighbor, Jr. Graduate - Marc LaFrance (UNIVERSITY OF NEW HAVEN)

2001

George W. Neighbor, Jr. Memorial Scholarship – Allison Curran (UNH)

2000

George W. Neighbor, Jr. Memorial Scholarship – Linda Chiu Rourke (graduate)

1999

George W. Neighbor, Jr. Memorial Scholarship – Kimberbely A. Parker
George W. Neighbor, Jr. Memorial Scholarship – Vincent J. Desiderio

1998

George W. Neighbor, Jr. Memorial Scholarship – Lisa Malachowski
George W. Neighbor, Jr. Memorial Scholarship – Brandy Blackburn

1997- Awards changed to be called George W. Neighbor, Jr. Scholarship

No awards were given out as all applications received were incomplete.

1989 and 1990 No award given out.

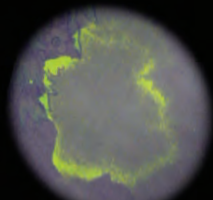
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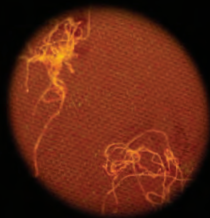
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Title: Quality Control and Transfer of Touch DNA in Fingerprinting Methods

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Abstract

Forensic touch DNA is genetic material generated by the epithelial cells left behind when an individual touches a surface. Human identification technology today is sensitive enough to detect with enhanced PCR cycling a single cell or six picograms of DNA. In criminal investigation, touch DNA is often collected from evidence after the surface has been dusted for fingerprints. Locard's exchange principle would suggest that this process could potentially lead to the accidental transfer of touch DNA from the initial surface to the fingerprint brush which could then transfer the captured epithelial cells or DNA to a secondary surface. If this transfer event does occur it could lead to the potential linkage of an individual to an object that they never originally interacted with. This situation becomes critical if the sample is then of mixed sources and may impact on the overall interpretation of the genetic profiles. The purpose of this research was to explore the potential for transfer of epithelial cells by using several types of fingerprint brushes across different surfaces. For intentionally touched objects (target surface 1), 32% of the touched items had detectable DNA using real-time PCR. For untouched objects (target surface 2), some transfer events were detected by real-time PCR in 18% of the untouched items. However, when genotyped for human identification, only four samples (8%) had interpretable alleles. Results show some inadvertent DNA transfer did occur by using fiberglass and feather fingerprint brushes and was detectable in the water washes from brushes. This transfer study points to a scientific need for quality control and caution in interpreting DNA mixtures after fingerprint methods have been utilized. In quality control procedures in forensic science laboratories, this secondary transfer should be considered as fingerprinting of evidence occurs prior to DNA collection and could be a considerable source of extraneous DNA. Microfluidic cell separation technology and probabilistic genotyping software may be of some use in mitigating the effect of inadvertent DNA transfer.

Keywords. DNA, contamination, secondary transfer, fingerprints, PCR

Introduction

Locard's exchange principle states that any action cannot occur without leaving a trace. This simple principle covers two different types of transfers: primary and secondary transfer. Primary transfer refers to the initial transfer from one person to another or one person to an object, and secondary transfer refers to the elements of a primary transfer, such as epithelial cells, fiber or blood, being transferred to a tertiary object through an intermediary. In 1997, van Oorschot and Jones suggested that a genetic profile could be generated simply by testing a swabbing from a surface touched by an individual (1). This genetic profile is made up of the epithelial cells and free DNA that are shed when an individual touches a surface and has been deemed touch DNA. Since then it has been determined that the number of cells deposited in an act of primary transfer by touch ranges from 20 to 100 cells, only some of which contain DNA (2). Theoretically, the relatively small amount of cells left by a primary transfer would suggest that it is highly unlikely that secondary transfer of touch DNA would occur (2). Some studies have shown, however, the potential for secondary transfer of DNA to occur under ideal conditions (3). Current technologies for separating DNA mixtures from contamination events are based on cell separation by microfluidic technology (4-6) or statistical evaluation of the DNA mixture using probabilistic genotyping software (7-9).

It has been suggested that there exists a potential for cross-contamination by touch DNA during the process of visualizing latent prints (10). Williamson recommended that dusting for prints should be done with single use

brushes and small disposable aliquots of powder to avoid potential cross-contamination (10). In one study, C. Proff et al. showed that fingerprint brushes could contain full genetic profiles and that the potential of secondary transfer existed by the repeated use of a fingerprint brush (11). However, in the Proff study, the focus was not on touch DNA and several of the brushes used could have been exposed to blood or other bodily fluids which would increase the likelihood that DNA would be found on the brush and be transferred. Another study was carried out by van Oorschot et al. and showed DNA could accumulate on a brush and be transferred onto another surface, but the risk was low unless the brush had come in contact with blood or other sources of large amounts of DNA (12). The potential transfer of DNA by fingerprint brush is an established reality with chances of transfer increasing when a brush comes into contact with a source of high levels of DNA. However, the potential to transfer touch DNA or shed epithelial cells from a single fingerprint alone is an important question. Is it possible that the small quantity of cells found on a single fingerprint with limited contact time can be transferred to a secondary surface? The aim of this research was to examine the potential for single cell transfer in a controlled experiment where the fingerprint brushes would not come in contact with any other source of DNA beyond the touch DNA found in a single fingerprint. This study has quality control implications for contamination rates at crime scenes or in the laboratory environment, especially as forensic DNA analysis equipment becomes more portable and detection limits increase in sensitivity.

Materials and Methods

Surface Preparation: For this experiment, five surfaces were selected for testing: 1. Coroplast Sign, white corrugated plastic board, 2. Plywood, 3. Pressure treated lumber, 4. Plate sheet steel and 5. Polypropylene handle of a knife. The plastic board, plywood, lumber and steel were sectioned and cut into working sizes so that a single fingerprint could be placed on the surface and be visualized with ease. A procedure for cleaning and sterilizing the surfaces was developed. Each surface was wiped with a PDI sterile alcohol prep pad (VWR, Inc.; Radnor, PA) to remove any surface debris. Next the exposed side of the surface was sprayed with Conflkt® Detergent Disinfectant (Decon Labs; King of Prussia, PA) and allowed to soak for 10 minutes according to product directions. After 10 minutes the surface was flipped and the opposite side was sprayed and allowed to soak. Afterwards, each side of the surface was wiped with a sterile alcohol pad to remove any Conflkt® residue. The cleaned surfaces were placed in the Spectrolinker XL-1500 UV Crosslinker (Spectronics Corporation; Westbury, NY) for 300 seconds for each side of the surface. The surfaces were removed from the crosslinker and sealed in heat sealable bags for preservation of sterilization until sample testing occurred. Only one knife was available therefore the sterilization procedure was repeated for each test involving the knife. All other surfaces were single use surfaces. Each surface was given an identification letter for trial naming: L for Lumber, W for Plywood, P for corrugated plastic board, S for sheet metal, and K for the Knife handle.

Fingerprint Brushes: Five different fingerprint brushes were used in this experiment: 1. Black Feather Duster, 2. Regular Camel Hair Brush, 3. Black Squirrel Hair Latent Print Brush, 4. The Original Zephyr Fingerprint Brush, and 5. The Breeze Single-use Fiberglass Brush (Arrowhead Forensics; Lenexa, KS). These fingerprint brushes were kept in their original unopened containers until the first sample collection. After the first collection, the currently used fingerprint brush was sealed into an individual heat sealable bag. Each fingerprint brush was to be used through two trials with each surface. Each brush was given an identification letter for trial naming: f for the feather brush, s for the squirrel hair brush, c for the camel hair brush, g for the Breeze fiberglass brush, and d for the Zephyr single-use fiberglass brush.

Subjects: Two subjects donated fingerprints and touch DNA for this study after approval was received by the IRB (UNH) for human subject testing. These subjects were designated as α and β for trial naming. Each fingerprint brush trial was run with only one subject. A DNA reference buccal swabbing was taken from each subject and frozen in a sterile 1.5ml collection tube until DNA extraction. A DNA reference buccal swabbing was also taken from the primary investigator.

Sample Collection: Sample collection was performed under a portable fume hood with the surface under being wiped down with Conflkt® spray. Two Kimwipes® EX-L (Thermo Fisher Scientific, Inc., Waltham, MA) were placed on the dried working surface. One of the five brushes was selected to be the working brush and the heat sealed bag was opened. Next, two pieces of a target surface were removed from a heat sealed bag and placed on the Kimwipe under the fume hood. The two surfaces were kept apart to avoid the possibility of the subject accidentally

touching the secondary surface. The subject was instructed to place one finger on one of the target surfaces for fifteen seconds with constant pressure. During this time the primary investigator marked around the subject's finger on the surface to assist with the locating of the fingerprint for subsequent visualization and swabbing. After fifteen seconds, the subject was instructed to remove the finger from the surface and to move away from the fume hood. The currently selected fingerprint brush was then used to visualize the fingerprint on the surface by application of powder. After visualization, the fingerprint brush was laid down on the Kimwipe next to the container of powder away from the two surfaces. The visualized print was then swabbed with a rolling motion using one sterile cotton swab moistened with sterilized (DNase and RNase free) Milli-Q water and a second dry sterile swab. The swab tips were then broken into a sterile 1.5ml collection tube and placed into a tray to be frozen until DNA extraction. Each tube was labeled with the date and a code that indicated: subject, fingerprint brush, surface, trial number, and whether the surface had been touched or not. Next, powder was reapplied to the fingerprint brush and the second target surface, without a fingerprint on it, was dusted. The dusted location of the surface was swabbed in the same manner as the previous surface. The two surfaces were then heat sealed into individual bags and placed in a freezer for storage. This process was repeated for another pair of the surface substrates to produce replicate samples; for the knife trials the sterilization procedure had to be repeated each time. Each brush was used to dust two pairs of each surface before being heat sealed into a bag for preservation until DNA extraction. After this use, another brush was selected for testing and underwent the same procedure. Use of a brush was limited to the visualization of a single subject's fingerprints. A total of 100 samples were generated, 50 swab pairs from touched surfaces and 50 swab pairs from untouched surfaces. For sample coding the trials were designated as 1 or 2 for the duplicate studies, and (a) for a trial that involved a touched surface and (b) for an untouched surface.

DNA Extraction for Samples: Prior to DNA extraction, the samples were allowed to defrost for 15-20 minutes. DNA extraction was performed using the QIAgen QIAamp® DNA mini kit (Life Technologies; Grand Island, NY) following the manufacturer's guidelines. Extractions were performed five samples at a time with samples from the same brush extracted at the same time. All of the extractions for swabs from the touched surfaces were performed prior to the extractions of the untouched surface swabs to avoid accidental DNA transfer to the samples. Once the samples had defrosted, sterile DNase/RNase free water was added to the tube and the swabs were allowed to soak for 1-2 minutes. Next protease K and Buffer AL were added and the samples were vortexed. The samples were then incubated at 56°C using a heat block for 10 minutes. The samples were centrifuged to collect any condensation. Using tweezers, treated with Conflikt® spray and wiped with alcohol pads, the swabs were removed from fluid in the 1.5ml tubes and loaded into a spin basket and centrifuged for 1 minute at full speed. The swabs were then removed from the spin basket and the eluent from the centrifugation was combined with the liquid from the original tube. Ethanol was then added to the sample and the whole mixture was vortexed and centrifuged. The sample mixture was then added to a spin column and spun at 8000 rpm for 1 minute. This step was repeated until the whole of the sample had been loaded onto the spin column. Next Buffer AW 1 was added to the spin column and the column was spun at 8000 rpm for 1 minute. Then Buffer AW 2 was added to the spin column and spun at 14000 rpm for 3 minutes. The spin column was transferred to a clean collection tube and Buffer AE was added to the column and allowed to incubate at room temperature for 5 minutes. The column was then centrifuged at 8000 rpm for 1 minute. The flow through with potential DNA was then labeled with the trial code and frozen until quantification.

DNA Extraction for Brushes: Each brush was washed off in a 50 ml conical tube in DNase/RNase free water. The water from the wash off was separated as 1 ml aliquots into multiple 1.5 ml collection tubes. Each tube was centrifuged at maximum speed for 3 minutes. The liquid was then removed from the tubes and 20 µl of fresh DNase/RNase free water was added to each collection tube. The tubes were vortexed and the samples for the brush were combined. This mixture was then centrifuged at maximum speed for 3 minutes and the liquid was removed. The collection tube was then extracted following the same extraction method as the samples, but the segment using the spin basket was skipped.

Quantification of DNA: Quantification of samples was performed using the Quantifiler® Human DNA Quantification Kit (Life Technologies; Grand Island, NY) following the manufacturer's guidelines. Quantification was performed in 50 sample trials where each trial contained either all of the samples from a touched surface or all of the samples from an untouched surface. The PCR quantification was made to a final volume of 25 µl with 23 µl of master mix and 2 µl of sample. The master mix was composed of 10.5 µl of primer mix and 12.5 µl of PCR reaction mix. An 8 standard dilution series was prepared in duplicate with the standards at concentrations (in ng/µl): 50, 16.7, 5.56, 1.85, 0.62, 0.21, 0.068, and 0.023. The PCR was performed using an Applied Biosystems Inc.

PRISM 7500 SDS instrument and the cycling was as follows: 1 cycle at 95.0°C for 10 minutes, 40 cycles at 95.0°C for 15 seconds each, and 1 cycle at 60.0°C for 1 minute.

Identification by Capillary Electrophoresis: Following the quantification of the untouched surface samples, nine surfaces showed quantification of DNA. These samples were tested for allelic profiles via capillary electrophoresis along with the known samples from the two subjects and the primary investigator. PCR was performed using the AmpFLSTR Identifiler® PCR amplification kit (Life Technologies; Grand Island, NY) following the manufacturer's guidelines. Each PCR tube received 10 µl of master mix and 5 µl of primer set. Tubes prepared for known samples received 2 µl of known DNA and 8 µl of sterile DNase/RNase free water. Tubes prepared for unknown samples, the amplified untouched surfaces, received 10 µl of sample DNA. The samples were loaded into a thermocycler and heat denatured at 95°C for 3 minutes. Then 1 µl of the PCR samples were aliquoted into a well tray along with 24 µl of a master mix prepared from 23.5 µl formamide and 0.5 µl of LIZ size standard. These samples were run with an AmpFLSTR Identifiler Allelic Ladder with an injection time of 5 seconds.

Results

Quantification of the touched surfaces showed that 16 of the 50 touched surface samples contained detectable levels of DNA based on quantification by the 7500 Real-Time PCR system indicating 15 seconds of contact time with pressure did not always transfer detectable touch DNA to a surface. As the focus of the study was on secondary transfer events, quantification of the untouched surface samples showed 9 of the surfaces had detectable amounts of DNA amplification. These samples originated from tests from all of the nonporous surfaces (but not from lumber, a porous surface), from trials of all the brushes, and from both subjects. Five of the 9 samples came from tests involving the sheet steel. The sheet steel was also responsible for the largest detectable DNA sample from an untouched surface at 0.009ng/ul which is equivalent to 1.5 cells worth of DNA. Allelic identification by capillary electrophoresis of these samples showed that 4 of these 9 samples had detectable alleles (Table 1). These samples are coded as: αgS1b (Breeze fiberglass brush, sheet metal), βdS2b (Zephyr fiberglass brush, sheet metal), αfK1b (feather brush, knife handle), and αfK2b (feather brush, knife handle). Of these samples, αfK1b (feather brush, knife handle) had the most detectable loci at 7 total, however several of the alleles did not match either the donor or the primary investigator, and the sex determining locus, amelogenin, exhibited potential allele drop-out for sex; this sample was consistent with random contamination. The samples from βdS2b (Zephyr fiberglass brush, sheet metal) and αfK2b (feather brush, knife handle) had the fewest loci at 1 each. The 15 allele at the D3S1358 locus for sample βdS2b (Zephyr fiberglass brush, sheet metal) are consistent with a transfer event. The locus that was detected for αfK2b (feather brush, knife handle) was for sex and was female though the subject from that trial was male indicating likely allele drop-out or degradation of the Y chromosome fragment. The final sample with detectable alleles was αgS1b (Breeze fiberglass brush, sheet metal) with 6 loci. All of the alleles from the loci matched to the donor source and are consistent with transfer by fingerprint brush. The results show that secondary DNA transfer from a primary touched surface can occur via fingerprint brushes and be detected on a secondary untouched surface leading to potential confounding of DNA mixture results on evidence. Interestingly, fiberglass and feather brushes were more likely to transfer DNA perhaps due to static charge.

Discussion

In 1997, van Oorschot and Jones suggested that it would be possible to collect DNA samples from surfaces touched by individuals. Since then there have been many studies exploring the concepts of both touch DNA and trace DNA with some studies suggesting potential transfer of DNA by different means. While previous studies showed that the transfer of DNA by fingerprint brushes can occur in some situations, such as when the brush has been exposed to sources of large quantities of DNA from blood and body fluids, it had seemed unlikely that the transfer of touch DNA by a fingerprint brush was sufficient to generate detectable alleles. In this study, however, DNA was not always transferred by brush, but for some brushes such as fiberglass and feather-based brushes, touch DNA and shed epithelial cells were transferred and partial DNA profiles detected. Out of 50 samples that were touched only 16 samples showed detectable levels of DNA and 9 untouched samples contained verifiable alleles by capillary electrophoresis. The low number of touched samples having detectable levels of DNA are likely because they were only touched by a single finger and for only 15 seconds. This would provide a low surface area for the cells to be shed from and there would have been little force (as opposed to gripping an object for extended periods of time) to assist in the mechanical removal of epithelial cells. The ability to collect fingerprints and DNA, without

contamination events, is an important aspect of the criminal justice field. As technology advances and DNA becomes easier to detect (and portable DNA field instrumentation is implemented) to the single cell level, it is important to ensure that evidence is not being contaminated via accidental cell transfer in evidence collection and processing. This may seem inconsequential but a survey of negative controls in validation studies demonstrate that contamination rates significantly increase with enhanced PCR cycles (Table 2) (13-15). This study has bearing for increasing quality control procedures at the crime scene and in the forensic science laboratory and implications for subsequent DNA mixture interpretation where contaminants and unexplained alleles are detected after processing for fingerprints (3, 8, 9, 11, 12).

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Table 1. Allele Recovery from Untouched Fingerprint Processed Surfaces

Sample:	Analyst	β Known	α Known	α gS1b	α fK2b	α fK1b	β dS2b
Marker	Alleles	Alleles	Alleles	Alleles	Alleles	Alleles	Alleles
D8S1179	13, 14	13	13	13		13	
D21S11	28	30	27, 31	27, 31			
D7S820	n.r.	11	9, 12	9, 12			
CSF1PO	11	10, 11	11	11			
D3S1358	15	15, 17	16, 17	16, 17		15	15
TH01	6, 7	6, 9.3	8, 9.3	8, 9.3		6	
D13S317	11, 13	11, 12	11, 13			12	
D16S539	9, 13	12	11, 14				
D2S1338	17	17, 25	22, 24				
D19S433	13, 14	12, 14	12, 14			14.2, 15.2	
vWA	15	17, 21	15, 19				
TPOX	8, 9	8, 11	11				
D18S51	n.r.	13, 14	13, 18				
AMEL	X, Y	X, X	X, Y		X, X	X, X	
D5S818	10, 12	12	11, 12			12, 13	

n. r. = no
result

Table 2. Published DNA Contamination Rates

Reference	PCR cycle number	Contamination rate
Gill et al., 2004	28	0.001
IESRL, 2014	29	0.003
Caragine et al., 2009	31	0.08 – 0.11

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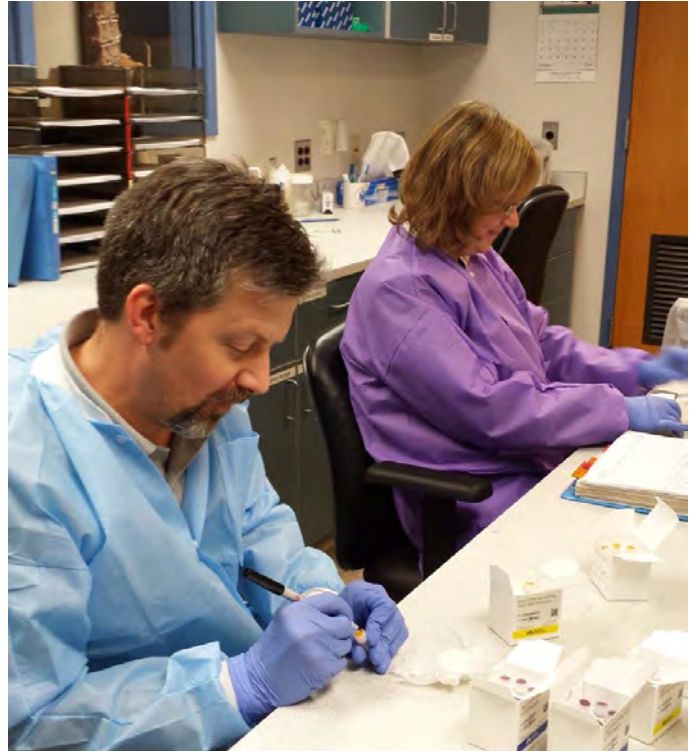
FOR A CONSTANTLY CHANGING WORLD

Benefits of Electronic DNA Sample Management

Maine Crime Lab Decides Electronic Solution Is Best For Ensuring More Accurate, Streamlined DNA Sample Management

Many forensic laboratories are discovering that converting their DNA sample management from a manual to electronic process can yield several major benefits, such as improved sample tracking, more efficient work flow, increased throughput, more accurate reporting of results, and tightened chain of custody. Manual methods for achieving DNA sample management results can lead to errors in transcribed data, contributing to flawed results, which can hinder criminal investigations.

Most laboratories today have some level of automation, one of which is a Laboratory Information Management System (LIMS), designed for tracking evidence samples and work flows by providing essential testing tools for every stage of the work flow process. The LIMS aims to shorten the data path between instruments generating the analytical results, streamline data evaluation by scientists, and strengthen the subsequent reporting of results. Laboratories might also use a wide array of robots and various instruments, especially for DNA sample processing.



Two scientists in the Maine State Police Crime Lab unpack DNA profiling kits.

Completing Work Sheets Tedious With Manual Approach

The missing link within these solutions typically is an electronic solution for DNA sample management. This is what the Maine State Police Crime Laboratory, in Augusta, Maine, has discovered, and why it is presently preparing to install a highly customized software from Phoenix, Arizona-based JusticeTrax, called LIMS-plus DNA. This software would vastly improve a DNA laboratory's sample management process via several capabilities: tracking requests for analysis, analysts, groups assigned; customized analytical modules; evidence barcoding; tailored report templates; quality management via uniformity of information (recording use of test methods, training records, instrument validation); and improved documentation. The Maine Crime Laboratory's decision to make DNA processing electronic was influenced, in part, by the fact that the laboratory has been using its vendor's LIMS-plus software since 1999.



A forensic analyst prepares an extracted DNA sample.

For this very reason, Muniec says he looks forward to implementing the LIMS-plus DNA software "so that when you have to fill out a work sheet, you only have to type in the information once. Then the correct item numbers and case numbers just keep carrying through from step to step, work sheet to work sheet," Muniec said. "Ideally, at the end, you'd also have

Prior to the laboratory's adoption of a LIMS, every activity tied to evidence processing was done with paper and carbon copies. David Muniec, Forensic Biology Supervisor for Maine State Police Crime Laboratory, called the manual system "atrocious." Although the LIMS software has eclipsed the manual system in efficiency, higher accuracy, time savings, and more reliable data entry and reports, filling out DNA analysis work sheets remains a manual process. "Right now, we have paper work sheets," Muniec said. Therefore, as an example, when a scientist is working with a particular case number and has evidence items associated with it (i.e., item 1, item 2, item 3), he or she has to write these onto every work sheet for all of the steps in the DNA analysis process--extraction, quantification, amplification, and detection.

an automated way to print out your DNA profile instead of transcribing it, and then importing your DNA profiles into CODIS.”

LIMS Integration Needed

Although all operations within a crime laboratory are important, those associated with DNA sample management are especially so because human lives and innocence or guilt of a crime may be at stake. Once evidence comes into a lab, it is assigned a case number and an item number. “If we could have a system (i.e., LIMS) integrate this information from an electronic DNA sample management solution, then when the DNA analyst wants to work with his pick list—items 1,2,3, etc.—the work sheet is automatically populated,” Muniec explained. “That’s the best of all possible worlds instead of sitting at a computer and typing this out manually.

If you create an error at the beginning using a manual system, it’s going to perpetuate itself.” When mistakes occur using a manual DNA sample management approach, a corrected or amended report must be generated. “It all gets to be very confusing,” Muniec said. “You have to worry if people have the right report.”

Electronic Solution Would Benefit Many Stakeholders

Another reason for Muniec’s concerns and his desire to make DNA sample management electronic is that his laboratory works with numerous law enforcement agencies connected with criminal investigations, identification of human remains for the medical examiner’s office, and uploads of DNA profiles from convicted offenders collected by probation officers and the state department of corrections. “If you automated all of this and eliminated as much repetitive, manual data entry as possible, even little errors, you’ve just made the DNA process a little bit quicker, and you’ve also increased by many times-fold the reliability,” Muniec said.



An analyst examining a carpet sample for blood.

Staying With One Vendor Yields Software Continuity

The Maine State Police Crime Laboratory feels it is plausible to adopt an electronic DNA sample management solution from the same vendor who has provided its LIMS. A main reason is the need for eventual integration of the LIMS and DNA software programs. Using a totally different vendor could be very risky. Even if, say, an alternate DNA sample processing software did work, when it came time to migrate to the next version of the LIMS software, “you’d have to recreate the whole effort to accomplish integration,” Muniec said. Mixing and matching different software also can possibly boomerang on a laboratory regarding service and support, meaning this could involve renewed software evaluation and purchases. Furthermore, there are budgetary constraints for many labs with their purchases of software and equipment because there often are free upgrades provided by the software vendor. Working with the same vendor throughout any new software purchases is optimal. No laboratory wants to buy new software every five or ten years. Instead, upgrading the software is preferred since the vendor can keep the software operating and current.

It’s not enough just to have a LIMS in forensic laboratories for tracking evidence samples because of the increased emphasis on DNA sample management. Converting from a manual DNA processing system to one that is electronic is crucial to assure fewer data entry errors and strong chain of custody, but also to integrate with an existing LIMS. Such a dedicated electronic solution for DNA processing can prevent many invasive issues from interfering with work flow and throughput. These are:

- *Problematic error checking
- *Inability to effectively track samples
- *Cumbersome documentation
- *Inability to prevent, track, and correct transcription errors
- *Multiple data inquiries
- *Complicated peer review process

An electronic solution for DNA sample management will grow as a laboratory grows and as its needs increase. Integral to this growth is the software's ability to be customizable to the laboratory's specific methods, protocols, instrumentation, and other operations. After all, said Maine State Police Crime Laboratory's Muniec, "The report is the end product. It's what we send out. The report is paramount because it's tied to everything we do and to the impact and repercussions this has on people's lives—for the victims, perpetrators, and for the innocently accused."

Bob Galvin

Bob Galvin is an Oregon-based writer who writes on trends in forensic science and DNA processing and associated technologies used.

Although NEAFS solicits comment regarding the submissions of articles for its newsletter it does not peer review these articles before publication. NEAFS does not endorse the results or conclusions of any published article.



An analyst examining evidence for biological fluid using UV light technology.

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2015 Training Scholarship Fund

The Northeastern Association of Forensic Scientists (NEAFS) is proud to offer its members a 2015 Training Scholarship Fund. Regular members, in good standing, are eligible to receive up to \$200 towards training, workshop or non-NEAFS meeting registration expenses. Detailed instructions and application forms are available on the NEAFS website. Simply click the “Training” link at the top of the screen and scroll down to the “NEAFS Training Scholarship Forms”.

The current application period is January 1st, 2015 to December 31st, 2015. Reimbursements will be issued on a first come, first serve basis and funding is limited. If you plan to attend a non-NEAFS meeting workshop, training or course during this application period and will not be funded by your agency or any other non-NEAFS related entity, we highly encourage your swift application for the 2015 Training Scholarship Fund.

Please visit the NEAFS [training](#) website to take advantage of this great NEAFS opportunity and to view upcoming training opportunities!

Upcoming Training

The Marshall University Forensic Science Center in Huntington, West Virginia is offering Forensic Relationship Training Sessions 1 & 2 Combined during November 2-5, 2015. For more information please visit <http://forensics.marshall.edu/> or contact Judy Fry at 304-691-8959 or jafry@marshall.edu.

The New England Division of the International Association for Identification (NEDIAI) Annual Meeting will be held from November 16-18th, 2015 in Burlington, VT.

The Specialized Training Unit at the Miami-Dade Public Safety Training Institute will be presenting a Bloodstain Pattern Analysis Workshop in Doral, Florida from December 7-11, 2015. For information contact: Toby L. Wolson, MS, F-ABC, Criminalist Supervisor, Miami-Dade Police Department, Forensic Services Bureau, Forensic Identification Section, 9105 NW 25th Street, Doral, Florida 33172-1500; Voice: 305-471-3041; Fax: 305-471-2052 or E-mail: twolson@mdpd.com.

ABC Reimbursement

The NEAFS Board of Directors has voted to reimburse the American Board of Criminalistics exam sitting fees for five NEAFS members (regular or associate) in good standing who pass the ABC exam. This offer is for any ABC exam taken in 2015. There will be an exam offered at the NEAFS Annual meeting in Hershey. After passing the examination, please fill out the ABC Examination Reimbursement Form (www.neafs.org) and email the completed form with proof of passing the exam to the NEAFS Certification Chair Peter Diaczuk at certification@neafs.org. The reimbursement is based on a first come first served basis. Remember you must pass the ABC exam to be considered for reimbursement.

Education

Moving forward in the areas of education/training, I have been working with Keith Mancini to possibly utilize the NEAFS site to organize and store educational/training documents including SOP's. Organized by discipline, this would allow us to post useful documents, making them available to all of our members. These could then be used to develop and enhance both employee training as well as our testing protocols. In Drug Chemistry for instance, we could post unknown spectra for review and comments. Our lab has a narcotic tablet database sorted by imprint that is used by law enforcement and DA's to determine possible drug charges. We also would be willing to post our Duquenois Levine validation spreadsheet that contains over 100 tested herbs and spices along with the reaction pictures.

Every lab has some great documents that would benefit other labs. By working together and combining our talents we improve our own lab, the profession as a whole, and NEAFS as an organization.

If you are interested in contributing please contact me at JWesley@monroecounty.gov.

Jim Wesley

Missing Something

Be sure to check the NEAFS website for the latest **Job Opportunities**.

B.O.D. Meeting Minutes and Financial Statements will now be placed in the Member Area of the NEAFS website. If you have trouble logging in please contact the web master, webmaster@neafs.org.