Welcome to the Photonics West General Meeting

February 6, 2019
Meeting Agenda

- Welcome and Opening Comments
- Minutes – O&P Board Meeting
- 2018 Election
- Financial Report
- Membership update
- Workshop Recap
- Committee Reports
- New Business
- SPIE Update
Election Results

Corporate Member
Dave Mohring – OptiPro

Corporate Member
Justin Mahanna – Universal Photonics

2019 President Elect
Lee Steneken – Esco Optics
Contact information

- Mike Mandina: mmandina@optimaxsi.com
- Lee Steneken: lee@escooptics.com
- Kirk Warden: kirk@lacroixoptics.com
- Jim Sydor: james@sydor.com
- Walt Czajkowski: czajkowskwalt@gmail.com
- Justin J. Mahanna: justinm@universalphotonics.com
- Chris Ghio: chrisghio@oharacorp.com
- Alexis Vogt: avogt4@monroecc.edu
- David Mohring: dmohring@optipro.com
- Michele Stolberg: michlisa@frontiernet.net
### Income (Projected /Actual)

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retained Earnings</td>
<td>$183,352</td>
</tr>
<tr>
<td>Member Dues* Yr. 2019</td>
<td>$36,000</td>
</tr>
<tr>
<td>Projected Year End Balance</td>
<td>$219,352</td>
</tr>
<tr>
<td>Projected Expenses</td>
<td>-$43,000</td>
</tr>
<tr>
<td>Projected Total Retained</td>
<td>$175,352</td>
</tr>
</tbody>
</table>

### Actuals Yr. End 2018

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>PayPal Account</td>
<td>$11,645</td>
</tr>
<tr>
<td>M&amp;T Bank</td>
<td>$171,706</td>
</tr>
<tr>
<td>YTD Total Balance</td>
<td>$175,352</td>
</tr>
</tbody>
</table>

* Projected Dues Yr. 2019
Members Invoiced Yr. 2018: $53,675

Paid Members Dues: $38,175
78 paid members

Outstanding Payments: $15,500
APOMA Member Dues Statistics Yr. 18

78 Paid APOMA Members

- @ $1300: 27%
- @ $350: 27%
- @ $450: 27%
- @ $300: 8%
- @ $700: 15%

American Precision Optics Manufacturers Association
APOMA Workshop Performance (10/20/18)

Attendance (72 paid members) $32,400
Sponsorship Revenue $9,000
Total Revenue $41,400

Expenses $17,824
Total Revenue $23,576
## APOMA 2018 Budget Performance

### Expenses vs. Budget Yr. 2018

<table>
<thead>
<tr>
<th>Category</th>
<th>Spent End of Year (red)</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postage &amp; Supplies</td>
<td>$250</td>
<td>$82</td>
</tr>
<tr>
<td>Dues &amp; Licensing</td>
<td>$5,500</td>
<td>$5,000</td>
</tr>
<tr>
<td>Tax &amp; Accounting Fees</td>
<td>$600</td>
<td>$655</td>
</tr>
<tr>
<td>Website Maintenance</td>
<td>$2,500</td>
<td>$218</td>
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<tr>
<td>Administration Assistance</td>
<td>$7,500</td>
<td>$6,544</td>
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<tr>
<td>Travel</td>
<td>$7,500</td>
<td>$5,027</td>
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<tr>
<td>Conventions</td>
<td>$2,000</td>
<td>$1,898</td>
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<tr>
<td>Contributions</td>
<td>$6,000</td>
<td>$3,000</td>
</tr>
<tr>
<td>Workshop</td>
<td>$12,000</td>
<td>$15,759</td>
</tr>
<tr>
<td><strong>Spent End of Year (red)</strong></td>
<td><strong>$43,450</strong></td>
<td><strong>$38,184</strong></td>
</tr>
<tr>
<td>Description</td>
<td>Amount</td>
<td></td>
</tr>
<tr>
<td>------------------------------------</td>
<td>---------</td>
<td></td>
</tr>
<tr>
<td>Postage, Supplies</td>
<td>$150</td>
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</tr>
<tr>
<td>Dues &amp; Licensing</td>
<td>$5,500</td>
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<tr>
<td>Tax &amp; Accounting Fees</td>
<td>$800</td>
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<tr>
<td>Web Site Maintenance</td>
<td>$8,000</td>
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<tr>
<td>Administrative Assistance</td>
<td>$8,000</td>
<td></td>
</tr>
<tr>
<td>Travel</td>
<td>$7,500</td>
<td></td>
</tr>
<tr>
<td>Conventions (OptiFab)</td>
<td>$8,000</td>
<td></td>
</tr>
<tr>
<td>Contributions</td>
<td>$5,000</td>
<td></td>
</tr>
<tr>
<td>Workshop</td>
<td>$0</td>
<td></td>
</tr>
<tr>
<td><strong>Budgeted Expenses</strong></td>
<td><strong>$43,450</strong></td>
<td></td>
</tr>
</tbody>
</table>
Membership Distribution

• Current memberships to date (142 members):
  - Academic: 33 members
  - Associate: 31 members
  - Corporate <15: 29 members
  - Corporate 16-60: 26 members
  - Corporate 61-125: 13 members
  - Corporate >125 employees: 10 members
  - Affiliate (non-N. American): 0 members
New Members in 2018

- Jayco Cleaning (Associate)
- Salem Distributing Company, Inc. (Associate)
- Savvy Optics Corp. (Associate)
- Deltronic Crystal Industries (Corporate, 15 or less)
- Dynamic Optics (Corporate, 15 or less)
- Gray Optics (Corporate, 15 or less)
- Spica Technologies Inc. (Corporate, 15 or less)
- Denton Vacuum (Corporate, 16-60)

- Imax Technologies, LLC (Corporate, 16-60)
- Intlvac Thin Film (Corporate, 16-60)
- Electro-Optics Technology (Corporate, 61-125)
- OptoSigma Corporation (Corporate, 61-125)
- Corning Tropel (Corporate, 125+)
- Lockheed Martin (Corporate, 125+)
- Argonne National Laboratory (Academic)
- Niagara College (Academic)
Technical Workshop Discussion

Conference was held at the Garre Vineyard and Winery
Technical Workshop

- October 18 & 19, 2018
- Garre Winery - Livermore, CA
- LLNL Tour

- LLNL
- Savvy Optics
- Universal Photonics
- OptiPro
- Schneider Optical
- SPICA

- Optimax
- Jayco Cleaning
- Optotech
- Eminess
- QED
- Ray Williamson Consulting
• Presentations:
  • Materials Science of Optical Fabrication
  • Novel Optics Polishing Using MRF
  • Nano Scratching of Optical Materials to Determine Polishing Removal Function
  • Predictive Models for Grinding and Polishing of Various Optical Materials
  • ISO 10110 Standards, Optics, Quality and Profits
  • Achieving and Superseding Laser Surface Requirements
  • Ultrasonic Fabrication Methods and Applications
  • Machining of Freeform Optics for Infrared Applications
  • Laser Damage Testing and New Laser Damage Standards
  • Ultrasonic Cleaning of Optical Surfaces
  • Work Manufacturing Concepts for Large Cylinder Lenses
  • Three-dimensional Configurable Optic Material for Precision CNC Optical Polishing
  • Latest Advancements in MRF and SSI Technologies
  • Additive Manufacturing of Glass Optics
APOMA Committee Updates
Committees and Current Chairs

• Apprenticeship – Alexis Vogt
• ISO10110 – Walt Czajkowski
• ITAR – Kirk Warden
• Marketing – Lee Steneken
• Optifab – Justin Mahanna
Apprenticeship Committee

• Goal: Precision Optics Manufacturing Technician
  ➢ Trade outline written in every state
  ➢ Nationally recognized, apprenticeable trade
  ➢ Designated number of training hours of & related instruction

• Current state:
  ➢ NYS certified Precision Optics Manufacturing Technician
  ➢ Intermediary program funded by the RTMA
  ➢ Covers paperwork, grant funding, connecting to related instruction and helping companies register apprentices
  ➢ Registers the program, interacts with NYS apprenticeship council
Apprenticeship Committee

- NYS Certified: Optimax Precision Optics Manufacturing Technician
  - 10 apprentices registered (8 in rotation, 2 in queue)
  - Start a new apprentice every quarter
  - 3 year rotation
  - Trade outline describes the work processes that need to be learned, but does not define how they are taught
  - 1:1 ratio of apprentice to journey worker required
  - 6000 hours of experience & 144 hrs/yr of related instruction
  - Related instruction taught at Monroe Community College
Apprenticeship Committee

• RTMA Process:
  ➢ JML Optical – 2 apprentices; cohort model
  ➢ OptiPro – 5 apprentices; Sydor Optics

• Challenge: Availability of the required related instruction
  ➢ MCC is the only community college awarding associate degrees in precision optics
  ➢ Additional precision optics manufacturing CC programs needed
  ➢ Front Range Community College in Boulder, CO
  ➢ Sussex County Community College in Newton, NJ
• Seeking grant writer to secure funding for apprenticeship initiative
  ➢ Dedicated national apprenticeship coordinator

• Additional discussion following APOMA general meeting this morning
SPIE Update
Diane Cline – SPIE
Other Business?