

# 2023 CONGRESS OF NEUROLOGICAL SURGEONS ANNUAL MEETING

September 9-13, 2022 Washington, D.C.

RELEVANT CONFLICT OF INTEREST DISCLOSURES AND EDUCATIONAL GRANTS

# **ACCREDITATION**

## ACCME Accreditation Statement

The Congress of Neurological Surgeons is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

# AMA Credit Designation Statement(s)

The CNS designates this live activity for a maximum of 44.00 AMA PRA Category 1 CreditsTM. Physicians should only claim credit commensurate with the extent of their participation in the activity.

\* A maximum of 21.50 AMA PRA Category 1 CreditsTM may be earned for general sessions only.

## ADDITIONAL CME CREDITS CAN BE EARNED BY ATTENDING THE FOLLOWING:

## SYMPOSIA - (SATURDAY/SUNDAY)

## Half Day Sessions

Registered attendees will receive a maximum of 3.75 AMA PRA Category 1 Credits<sup>TM</sup> for each eligible half-day morning symposia (A) and a maximum of 3.25 AMA PRA Category 1 Credits<sup>TM</sup> for each half-day afternoon symposia (B).

## **Full Day Sessions**

Registered attendees will receive a maximum of 7.00 AMA PRA Category 1 CreditsTM for each full-day symposia.

#### **LUNCHEON SEMINARS**

Attendees will receive a maximum of 1.50 AMA PRA Category 1 Credits<sup>™</sup> for all eligible luncheon seminars.

#### **DINNER SEMINARS**

Attendees will receive a maximum of 2.00 AMA PRA Category 1 Credits<sup>TM</sup> for all eligible dinner seminars.

# **Physician Assistant/Physician Extender:**

Attendees will receive credits for attendance at the general Scientific Sessions and for any optional events attended. Each physician assistant/physician extender should contact his or her individual membership association and certification board to determine the requirements for accepting credits. All attendees will receive a Certificate of Attendance.

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#### **NON-CME SESSIONS**

Per the ACCME Standards for Integrity and Independence in Accredited Continuing Education, all NON-CME sessions at the 2022 CNS Annual Meeting will be held in a separate room from accredited continuing education.

# RELEVANT CONFLICT OF INTEREST DISCLOSURES

# **CNS Disclosure Policy**

The Congress of Neurological Surgeons controls the content and production of this CME activity and attempts to assure the presentation of balanced, objective information. In accordance with the Standards for Integrity and Independence in Accredited Continuing Education established by the Accreditation Council for Continuing Medical Education (ACCME), speakers are asked to disclose all relationships they have with ineligible companies\* over the previous 24 months which may be related to the content of their lecture. Speakers who have disclosed a relationship with an ineligible company whose products may have a relevance to their presentation are listed below.

Any planner, reviewer, or faculty member not on the disclosure list has reported they have nothing to disclose.

All relevant financial relationships listed for these individuals have been mitigated.

Agenda and faculty subject to change

# **Reviewers**

| Individual's Name | Name(s) of Ineligible Company | Nature of Relationship(s) |  |
|-------------------|-------------------------------|---------------------------|--|
| Tiffany Hodges    |                               | Nothing to Disclose       |  |
| Akash Patel       |                               | Nothing to Disclose       |  |

Planners- Scientific Program Committee

| Individual's Name   | Name(s) of Ineligible Company  | Nature of Relationship(s) |
|---------------------|--|---------------------------|
| Fllow I. Aim        | Medtronic, Inc.  | Contracted Research       |
| Ellen L. Air        | Functional Neuromodulation, Stryker  | Consulting Fee            |
| Garni Barkhoudarian | Vascular Technologies Inc (VTI), Cerevasc (Data Monitoring Committee)                                      | Consulting Fee            |
| Justin M. Brown     | NuVasive   | Royalty                   |
|                     | Spine Wave, Globus Medical, Stryker, Integrity Implants, Medtronic,Inc., RTI Surgical                      | Royalty                   |
| Domagoj Coric       | Spine Wave, Globus Medical, Stryker, Integrity Implants, Medtronic, Nuvasive                               | Consulting Fee            |
| Jason Davies        | NIH R21/R01, NSF SBIR, UB-CAT, Buffalo<br>Translational Consortium, Cummings<br>Foundation, nVidia, Google | Contracted Research       |
|                     | Medtronic, Inc.  | Consulting Fee            |

<sup>\*</sup>Ineligible companies are those whose primary business is producing, marketing, selling, re-selling, or distributing healthcare products used by or on patients. An ineligible company is not eligible for ACCME accreditation or participation in Joint Providership.

| Isabelle M. Germano         | Brainlab, Integra   | Consulting Fee                               |  |
|-----------------------------|---|--|--|
| Ramesh Grandhi              | Biogen - ASTRAL Study, University of Utah Site<br>Principal Investigator<br>Abbott - Abbott iSTAT Study, University of Utah<br>Site Principal Investigator<br>Medtronic - EMBOLISE Study, University of Utah<br>Site Principal Investigator | Contracted Research                          |  |
|                             | Balt Neurovascular, Medtronic Neurovascular,<br>Cerenovus Neurovascular, Integra  | Consulting Fee                               |  |
| Jason Heth                  | Northwest Biotherapeutics   | Contracted Research                          |  |
| Christopher Michael Holland | Medtronic, Globus Medical   | Speakers Bureau                              |  |
|                             | Medtronic, Globus Medical   | Consulting Fee                               |  |
| Michael Lim                 | Patent for combining focused radiation and immunotherapy and patent for combining local chemotherapy and immunotherapy  | Receipt of IP                                |  |
|                             | Tocagen, VBI, InCephalo Therapeutics, Pyramid<br>Bio, Merck, BMS, Insightec, Biohaven,<br>Sanianoia, Hemispherian, Black Diamond<br>Therapeutics, Novocure, Noxxon, InCando,<br>Stryker   | Consulting Fee                               |  |
| Mark Alexander Mahan        | Joimax Inc  | Consulting Fee                               |  |
| Guy M. McKhann              | Koh Young Inc   | Consulting Fee                               |  |
| Jeffrey Paul Mullin         | Medtronic, Inc.   | Contracted Research                          |  |
|                             | Nuvasive, Medtronic Inc., SI bone   | Consulting Fee                               |  |
| Peter Nakaji                | AcuMed   OsteoMed   | Royalty                                      |  |
|                             | AcuMed   OsteoMed   | Recipt of IP                                 |  |
| Joseph Samir Neimat         | Abbott Inc, Monteris Inc, Medtronic Inc.  | Consulting Fee                               |  |
| David O. Okonkwo            | NuVasive, ZimmerBiomet  | Royalty                                      |  |
|                             | NuVasive  | Consulting Fee                               |  |
| Daniel A. Orringer          | Invenio Imaging Inc.  | Ownership Interest - Future<br>Stock Options |  |
|                             | Stryker Instruments, NX Development Corp  | Consulting Fee                               |  |
| Parag G. Patil              | NeuroOne Medical Technologies Corporation   | Consulting Fee                               |  |
| Charles A. Sansur           | Stryker, Nuvasive   | Royalty                                      |  |
|                             | Nuvasive  | Consulting Fee                               |  |
| Clemens M. Schirmer         | Principal Investigator ASPIRE, SLEEP SMART,<br>SURF, ENRICH, MIND, INVEST, EXCELLENT trials   | Contracted Research                          |  |
| Sameer A. Sheth             | Boston Scientific, Koh Young, Zimmer Biomet,<br>Abbott, Neuropace   | Consulting Fee                               |  |
| Laura A. Snyder             | Globus Medical, Medtronic, Nuvasive   | Consulting Fee                               |  |
| Jennifer A. Sweet           | NIH R56 Grant   | Contracted Research                          |  |
|                             | Koh Young Inc.  | Consulting Fee                               |  |
| Khoi Duc Than               | SI-Bone SI-Bone   | Speakers Bureau                              |  |

|                            | Bioventus, DePuy Synthes, Accelus, Cerapedics Consulting Fee                        |                     |  |
|----------------------------|---|---------------------|--|
| Stavropoula I. Tjoumakaris | Microvention, Medtronic   | Consulting Fee      |  |
| Anand Veeravagu            | NuVasive, Stryker, Surgical Theater, OsteoCentric  Consulting Fee                   |                     |  |
| Ben Waldau                 | K08NS105914 - Mechanism of Memory Decline after Intraventricular Hemorrhage         | Contracted Research |  |
|                            | Stryker, Siemens/Corindus   | Consulting Fee      |  |
| Chengyuan Wu               | Abbott, Boston Scientific, Medtronic,<br>Neuropace, Nevro, Microsystems Engineering | Consulting Fee      |  |

# Planners

| Adib Adnan Abla             | Stryker Neurovascular, Silk Road Medical Inc           | Consulting Fee                               |  |
|-----------------------------|--|--|--|
|                             |  | Consulting Fee                               |  |
| J. Alex Thomas              | NuVasive   | Contracted Research                          |  |
|                             |  | Royalty                                      |  |
| Jan-Karl Burkhardt          | Q`Apel Medical, Longevity Neuro Solutions              | Consulting Fee                               |  |
| Francesco DiMeco            | ВК   | Consulting Fee                               |  |
|                             | Ultrasound compatible prosthesis                       | Receipt of IP                                |  |
| Rose Du                     | Grand Rounds   | Consulting Fee                               |  |
|                             | Johnson & Johnson/Depuy Synthes                        | Consulting Fee                               |  |
| Benjamin D. Elder           | SI Bone SILVIA study, Stryker Adherus study            | Contracted Research                          |  |
|                             | Medical Advisory Board-Inject Sense                    | Ownership Interest - Future<br>Stock Options |  |
| Kai-Ming G. Fu              | Johnson and Johnson, Inc.                              | Consulting Fee                               |  |
| Christopher Michael Helland | Madtrania Clabus Madical                               | Consulting Fee                               |  |
| Christopher Michael Holland | Medtronic, Globus Medical                              | Speakers Bureau                              |  |
| Peter Kan                   | Stryker Neurovascular, Imperative Care                 | Consulting Fee                               |  |
| Tyler R. Koski              | NuVasive, Alphatec, SeaSpine                           | Consulting Fee                               |  |
|                             | NuVasive, Medtronic, Inc.                              | Royalty                                      |  |
| Rohan R. Lall               | Medtronic, SynerFuse                                   | Consulting Fee                               |  |
| Yi Lu                       | Depuy/Synthes  | Consulting Fee                               |  |
| André Machado               | Abbott   | Consulting Fee                               |  |
|                             | Abbott, Enspire  | Contracted Research                          |  |
|                             | Enspire, Ceraxis, and Cardionomics                     | Receipt of IP                                |  |
| Juan Carlos Fernandez-      | Integra  | Consulting Fee                               |  |
| Miranda                     | KLS Martin, Hotry                                      | Royalty                                      |  |
| Praveen V. Mummaneni        | Depuy, Stryker, Globus                                 | Consulting Fee                               |  |
|                             | AO Spine; Spineart                                     | Receipt of IP                                |  |
|                             | Depuy Spine; Springer Publishers, Thieme<br>Publishers | Royalty                                      |  |
| Brian V. Nahed              | React Neuro, Robeaute, Unclear                         | Consulting Fee                               |  |
|                             | React Neuro  | Ownership Interest - Future<br>Stock Options |  |

|                        | Merck, BK  | Speakers Bureau             |  |
|------------------------|--|-----------------------------|--|
| Matthew Neal           | Medtronic Inc.   | Consulting Fee              |  |
| Laura Benjamin Ngwenya | Biogen, Abbott   | Contracted Research         |  |
| Erika A. Petersen      | Abbott, Medtronic, Nevro, Vertos, Saluda               | Consulting Fee              |  |
|                        | Nevro, Neuros Medical, ReNeuron, Saluda, SPR           | Contracted Research         |  |
|                        | SynerFuse  | Ownership Interest - Future |  |
|                        |  | Stock Options               |  |
| Wilson Zachary Ray     | Globus Medical, Depuy Synthes, NuVasive                | Consulting Fee              |  |
| Daniel K. Resnick      | NIDUS  | Ownership Interest - Future |  |
|                        |  | Stock Options               |  |
| Scott Douglas Simon    | Member of PERFLOW clinical event committee             | Consulting Fee              |  |
|                        | for the European trial of their Cascade device         |                             |  |
| Andrew E. Sloan        | E. Sloan Monteris Medical, Inc., Surgical Theatre, LLC |                             |  |
|                        | Merck Pharmaceuticals, Monteris Medical                | Contracted Research         |  |
|                        | DVI  | Receipt of IP               |  |
| Robert J. Spinner      | Mayo Medical Ventures                                  | Consulting Fee              |  |
| Alejandro M. Spiotta   | Penumbra, Stryker ,Terumo, Siemens, Rapid Al           | Consulting Fee              |  |
| Geirmund Unsgård       | Sonoclear  | Consulting Fee              |  |
|                        |  | Ownership Interest - Future |  |
|                        |  | Stock Options               |  |
| Babu Guai Welch        | Medtronic, Inc.  | Consulting Fee              |  |
|                        | Stryker  |                             |  |
|                        | Peter Lazic, Inc                                       | Royalty                     |  |
| Brad Evan Zacharia     | Medtronic Inc.   | Consulting Fee              |  |
|                        | NICO Corp.   | Speakers Bureau             |  |

# Faculty

| Individual's Name  | Name(s) of Ineligible Company  | Nature of Relationship(s) |  |
|--------------------|--|---------------------------|--|
| Wael Asaad         | Vivonics, Medtronic, Inc.  | Contracted Research       |  |
| Ausaf A Bari       | Medtronic, Inc.  | Consulting Fee            |  |
|                    | Abbott, AbbVie, Glaxo Smith Klien, Ipsen, Merz,<br>Neuronika, Revance Supernus.                          | Consulting Fee            |  |
| David Charles      | Aeon, Allergan, Impax, Merz, Novartis, and Pharma 2B.  | Contracted Research       |  |
|                    | Medtronic, Inc.  | Consulting Fee            |  |
|                    | Medtronic, Inc.  | Contracted Research       |  |
|                    | PTC Therapeutics   | Fees For Non-CME Services |  |
|                    | Aesculap   | Speakers Bureau           |  |
| Shabbar F. Danish  | Medtronic, Inc.  | Consulting Fee            |  |
| Steven M. Falowski | Vertiflex, Medtronic, Inc., Abbott, Vertos, Saluda,<br>CornerLoc, Surgentec, Mainstay, Relievant, Aurora | Consulting Fee            |  |

|                     | Vertiflex, Medtronic, Inc., Abbott, Saluda, Mainstay,<br>Aurora Spine, CornerLoc                         | Contracted Research                          |  |
|---------------------|--|--|--|
|                     | Saluda, SPR therapeutics, Thermaquil, SpineThera,<br>Aurora, Surgentec, Painteq, Cornerloc               | Ownership Interest - Future<br>Stock Options |  |
|                     | Aurora   | Royalty                                      |  |
|                     | Vertiflex, Medtronic, Inc., Abbott, Vertos, Saluda,<br>CornerLoc, Surgentec, Mainstay, Relievant, Aurora | Speakers Bureau                              |  |
| Alfonso Fasano      | Abbott, Abbvie, Boston Scientific, Ceregate, Inbrain Medtronic, Inc.                                     | Consulting Fee                               |  |
| Albert J. Fenoy     | Medtronic, Inc.  | Consulting Fee                               |  |
| Kelly D. Foote      | Medtronic, Inc., Boston Scientific, Functional Neuromodulation   | Contracted Research                          |  |
| Saadi Ghatan        | Neuropace, Monteris  | Consulting Fee                               |  |
| Jamie Joseph Van    |  | Contracted Research                          |  |
| Gompel              | Neuro One  | Royalty                                      |  |
|                     | Medtronic, Inc., Abbott, Voyager, Zimmer Biomet,<br>NeuroOne, Boston Scientific                          | Consulting Fee                               |  |
| Robert E. Gross     |  | Contracted Research                          |  |
| Robert E. Gross     |  | Fees For Non CME Services                    |  |
|                     | Nia Therapeutics   | Ownership Interest - Future<br>Stock Options |  |
|                     | Boston Scientific  | Contracted Research                          |  |
| Jaimie M. Henderson | Enspire DBS, Circuit Therapeutics, Neuralink   | Ownership Interest - Future<br>Stock Options |  |
| Kathrun I. Hallaway | Modtronic Inc  | Consulting Fee                               |  |
| Kathryn L. Holloway | Medtronic, Inc.  | Contracted Research                          |  |
| Ayanna Howard       | Stern Strategy   | Speakers Bureau                              |  |

| Individual's Name     | Name(s) of Ineligible Company  | Nature of Relationship(s) |
|-----------------------|--|---------------------------|
| Suneil Kumar Kalia    | Medtronic, Inc.  | Consulting Fee            |
| Sulleli Kullidi Kalia | Weattonic, inc.  | Speakers Bureau           |
| Michael Gordon        | MairoCTv   | Consulting Fee            |
| Kaplitt               | MeiraGTx   | Contracted Research       |
| Camilla Kilbane       | Medtronic, Inc.  | Consulting Fee            |
|                       | TEVA, Accorda  | Speakers Bureau           |
| Albert H. Kim         | Monteris medical   | Consulting Fee            |
|                       |  | Fees For Non CME Services |
| Paul S. Larson        | Abbott, Aspen Neuroscience, Biogen, BlueRock, Boston Scientific, BrainXell, Corlieve, Galvani Bioelectronics Passage Bio, Sanofi, Sio Gene Therapies | Consulting Fee            |
|                       | Voyager, uniQure, Neurocrine, Brain Neurotherapy Bio   | Contracted Research       |

| Adrian Walter<br>Laxton   | Monteris Medical  | Consulting Fee                               |
|---------------------------|---|--|
| Eric C. Leuthardt         | Monteris Medical, Neurolutions  | Consulting Fee                               |
|                           | Neurolutions  | Royalty                                      |
| Andres M. Lozano          | Medtronic, Inc., Abbott, Boston Scientific, Insightec, Functional Neuromodulation | Consulting Fee                               |
|                           | Abbott  | Consulting Fee                               |
| André Machado             | Abbott, Enspire   | Contracted Research                          |
|                           | Enspire, Ceraxis, Cardionomics  | Recipt of IP                                 |
| Robert Allen<br>McGovern  | NeuroOne Medical Technologies Corporation   | Consulting Fee                               |
| Cameron C.<br>McIntyre    | Boston Scientific Neuromodulation   | Consulting Fee                               |
| Edjah K. Nduom            | Bristol-Myers Squibb  | Contracted Research                          |
| Joseph Samir<br>Neimat    | Abbott Inc, Monteris Inc, Medtronic, Inc.   | Consulting Fee                               |
| Parag G. Patil            | NeuroOne Medical Technologies Corporation   | Consulting Fee                               |
|                           | Abbott, Medtronic, Inc., Nevro, Vertos, Saluda                                    | Consulting Fee                               |
| Erika A. Petersen         | Nevro, Neuros Medical, ReNeuron, Saluda, SPR                                      | Contracted Research                          |
| LIIKA A. FELEISEII        | SynerFuse   | Ownership Interest - Future<br>Stock Options |
| Julie G. Pilitsis         | Boston Scientific, Nevro, Medtronic, Inc., Saluda and Abbott                      | Consulting Fee                               |
|                           | Medtronic, Inc., Boston Scientific, Abbott, Nevro,                                | Contracted Research                          |
| Francisco A. Ponce        | Boston Scientific, Medtronic, Inc., Globus  | Consulting Fee                               |
| Nader Pouratian           | Abbott, Sensoria Therapeutics, Second Sight Medical Products, Boston Scientific   | Consulting Fee                               |
| Robert Mark<br>Richardson | NeuroPace, Biogen   | Consulting Fee                               |
| John David Rolston        | Medtronic, Inc., NeuroPace, Corlieve Therapeutics                                 | Consulting Fee                               |
| Joshua M. Rosenow         | Boston Scientific Neuromodulation   | Consulting Fee                               |
| Joshua IVI. Noschow       | Boston Scientific Neuromodulation, SPR, Monteris                                  | Contracted Research                          |
| Individual's Name         | Name(s) of Ineligible Company   | Nature of Relationship(s)                    |
| Sepehr Sani               | Insightec   | Fees For Non CME Services                    |
| Jason M. Schwalb          | Tegus   | Consulting Fee                               |
| Jason IVI. Schwalb        | Medtronic, Inc., Neuros, SetPoint   | Contracted Research                          |
| Ashwini Dayal             | Cerebral Therapeutics, Medtronic, Inc., Neuspera                                  | Consulting Fee                               |
| Sharan                    | Cerebral Therapeutics, Medtronic, Inc., Neuspera                                  | Ownership Interest - Future<br>Stock Options |
| Sameer A. Sheth           | Boston Scientific, Koh Young, Zimmer Biomet, Abbott<br>Neuropace                  | Consulting Fee                               |
| Ludy Chih                 | Medtronic, Inc., Neurocrine, WCG Medavante  | Consulting Fee                               |
| Ludy Shih                 | Abbott, Praxis Precision Medicines  | Contracted Research                          |

| Konstantin V. Slavin | Medtronic, Inc., Abbott, Boston Scientific, Neuros, Stryker, Nurami, NovoNordisk                                   | Contracted Research                          |  |
|----------------------|--|--|--|
| KONSTANTIN V. SIAVIN | Vycor, Higgs Boson, Neuramodix, Stimwave, Thermaquil   | Ownership Interest - Future<br>Stock Options |  |
|                      | BMS, CarThera  | Contracted Research                          |  |
| Adam M. Sonabend     | Provisional patnt on use of ultrasound for delivery of pactiltaxel-bourd to albumin to the brain                   | Recipt of IP                                 |  |
| Jennifer A. Sweet    | Koh Young Inc.   | Consulting Fee                               |  |
| Nitin Tandon         | Nervonik, BrainGrade   | Ownership Interest - Own<br>The Company      |  |
| Doris D. Wang        | Boston Scientific, Iota Sciences   | Consulting Fee                               |  |
| Peter C. Warnke      | Medtronic, Inc.  | Contracted Research                          |  |
| Jessica Wilden       | ClearPoint Neuro Inc.  | Consulting Fee                               |  |
| Jon Timothy Willie   | AiM Medical Robotics, Inc.   | Consulting Fee                               |  |
| Jon Timothy Willie   | Medtronic, Inc., Neuropace, Inc., MicroTransponder, Inc. Inner Cosmos, Inc.  | Contracted Research                          |  |
|                      | Medtronic, Inc., Neuropace, Inc., Clearpoint Neuro, Inc.   | Speakers Bureau                              |  |
| Chengyuan Wu         | Abbott,Boston Scientific,Medtronic, Inc., Neuropace,<br>Nevro Microsystems Engineering, Janssen<br>Pharmaceuticals | Consulting Fee                               |  |

# **EDUCATION GRANTS & IN-KIND EQUIPMENT**

# **Commercial Support:**

Congress of Neurological Surgeons wishes to recognize and thank the following for providing an educational grant and/or use of equipment (in-kind):

| Name of Commercial Supporter | In-Kind Support | Financial Support |
|------------------------------|-----------------|-------------------|
| Zimmer Biomet                | Yes             | Yes               |
| FHC                          | Yes             | No                |
| Renishaw                     | Yes             | No                |
| Medtronic, Inc               | Yes             | Yes               |
| Monteris Medical             | Yes             | Yes               |
| Brainlab                     | Yes             | No                |
| Globus Medical               | Yes             | Yes               |
| Zimmer Biomet                | Yes             | Yes               |
| Elekta                       | Yes             | Yes               |