



Congress of
Neurological
Surgeons

2021 CNS Annual Meeting

October 16-20, 2021

Austin, Tx

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 **48 AMA PRA Category 1 Credits™**. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

*A maximum of **25.50 AMA PRA Category 1 Credits™** may be earned for Scientific Sessions only.

Additional CME Credits can be earned by attending the following:

SYMPOSIA

Attendees will receive a maximum of **3.5 AMA PRA Category 1 Credits™** for each Saturday half-day Symposia, a maximum of **7 AMA PRA Category 1 Credits™** for each eligible Saturday full-day symposia.

Attendees will receive a maximum of **3.5 AMA PRA Category 1 Credits™** for each Sunday half-day Symposia, a maximum of **7 AMA PRA Category 1 Credits™** for each eligible Sunday full-day symposia.

LUNCHEON SEMINARS

Attendees will receive a maximum of one-and-a-half (**1.5**) **AMA PRA Category 1 Credits™** for all eligible Luncheon Seminars.

DINNER SEMINARS

Attendees will receive a maximum of two (**2**) **AMA PRA Category 1 Credits™** for all eligible Dinner Seminars.

INTERACTIVE MULTIMEDIA RESEARCH PRESENTATIONS

Physicians may claim a maximum of five (**5**) **AMA PRA Category 1 Credits™** directly from the AMA for preparing a poster presentation, which is also included in the published abstracts. Physicians may claim them on their AMA PRA certificate application or apply directly to the AMA for an **AMA PRA Category 1 Credits™** certificate.

*Physicians may claim **AMA PRA Category 1 Credits™** for viewing scientific posters. Physicians should self claim credit on their AMA PRA certificate application form. Please visit the AMA website for details

at <https://www.ama-assn.org/>

Physicians should claim only the credit commensurate with the extent of their participation in the activity



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.

**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.*

List As of 10/12/2021

Reviewers

Individual's Name	Name(s) of Ineligible Company	Nature of Relationship(s)
Maryam Rahman		Nothing to Disclose
Garni Barkhoudarian	Vascular Technologies, Inc., CereVasc, Inc.	Consulting Fee

Planners

Individual's Name	Name(s) of Ineligible Company	Nature of Relationship(s)
Ellen L. Air	Functional Neuromodulation Stryker	Consulting Fee
	Medtronic, Inc	Contracted Research
Garni Barkhoudarian	Consultant - Vascular Technologies Inc (VTI) Consultant - Cerevasc (Data Monitoring Committee)	Consulting Fee
Erica Fay Bisson	MiRus, Stryker, Medtronic	Consulting Fee
	NView	Ownership Interest - Future Stock Options
Samuel Robert Browd	Proprioision, Inc.	Consulting Fee
	Proprioision, Inc.	Ownership Interest - Own The Company
	Proprioision, Inc.	Receipt of IP



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Justin M. Brown	NuVasive	Royalty
Dean Chou	Globus, Orthofix	Consulting Fee
	Globus	Royalty
Daniel Curry	Medtronic, Inc	Consulting Fee
	Company 1: Medtronic, Inc. Data Monitoring Committee, SLATE trial	Contracted Research
Andrew T. Dailey	Zimmer/Biomet	Consulting Fee
	Zimmer/Biomet	Contracted Research
	Zimmer/Biomet AO North America	Speakers Bureau
Francesco DiMeco	Gilaview	Receipt of IP
Justin F. Fraser	Medtronic	Consulting Fee
	Stream Biomedical	Ownership Interest - Future Stock Options
	Fawkes Biotechnology	Ownership Interest - Own Stocks
	Cerelux	Ownership Interest - Own The Company
	Penumbra	Speakers Bureau
Kai-Ming G. Fu	Johnson and Johns globus si bone	Consulting Fee
Ramesh Grandhi	Balt Neurovascular Medtronic Neurovascular Cerenovus Neurovascular Integra	Consulting Fee
	Biogen - ASTRAL Study Abbott - Abbott iSTAT Study	Contracted Research
Kathryn L. Holloway	Medtronic	Contracted Research
Langston T. Holly	Medtronic	Royalty
Michael E. Ivan	Medtronic Invenio	Consulting Fee
Christopher P. Kellner	Siemens, Minnetronix, Penumbra, Cerebrotech, Integra, Viz.AI, Irras, Longevity, Psilobrain	Contracted Research
Tyler R. Koski	Nuvasive Medtronic	Consulting Fee
	Nuvasive	Ownership Interest - Own Stocks
	Nuvasive Medtronic	Royalty



Eric C. Leuthardt	Monteris Medical eQuility	Consulting Fee
	Equility, Neuroolutions, Sora Imaging Solutions, inner cosmos,	Ownership Interest - Own The Company
	Neuroolutions	Royalty
Yi Lu	Depuy/Synthes	Consulting Fee
Mark Alexander Mahan	Joimax Inc	Consulting Fee
Frank La Marca	Globus Johnson and Johnson	Consulting Fee
	Globus Zimmer-Biomet Stryker	Royalty
Jorge Alvaro González- Martínez	Zimmer Biomet	Consulting Fee
Justin Robert Mascitelli	Stryker	Consulting Fee
	Penumbra and PMI.	Fees For Non CME Services
Cameron C. McIntyre	Boston Scientific Neuromodulation	Consulting Fee
	Surgical Information Sciences CereGate Autonomic Technologies Cardionomic Enspire DBS	Ownership Interest - Own Stocks
	Neuros Medical Qr8 Health	Royalty
Guy M. McKhann	Koh Young Inc	Consulting Fee
Juan Carlos Fernandez- Miranda	Integra	Consulting Fee
	KLS Martin	Royalty
Praveen V. Mummaneni	Depuy. Stryker, Globus	Consulting Fee
	AO Spine; Spineart	Receipt of IP
	Depuy Spine; Springer Publishers, Thieme Publishers, Depuy Spine	Royalty
Brian V. Nahed	React Neuro, Robeaute	Consulting Fee
	React Neuro	Ownership Interest - Future Stock Options
	Merck & Co.	Speakers Bureau
Edjah K. Nduom	Bristol-Myers Squibb	Contracted Research
Joseph Samir Neimat	Abbott Inc, Monteris Inc, Medtronic Inc.	Consulting Fee
David O. Okonkwo	NuVasive ZimmerBiomet	Royalty
Daniel A. Orringer	Stryker Instruments NX Development Corp	Consulting Fee



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	Invenio Imaging Inc.	Ownership Interest - Future Stock Options
John E. O'Toole	Globus Medical	Consulting Fee
	Globus Medical	Royalty
Jogi V. Pattisapu	Integra Neurosciences, Johnson & Johnson	Consulting Fee
Daniel K. Resnick	NIDUS AI	Ownership Interest - Future Stock Options
John David Rolston	Medtronic	Consulting Fee
William S. Rosenberg	Nevro	Consulting Fee
	Nevro	Speakers Bureau
Charles A. Sansur	Nuvasive	Consulting Fee
	Stryker, Nuvasive	Royalty
Clemens M. Schirmer	ENRICH, MIND, INVEST	Contracted Research
Sameer A. Sheth	Boston Scientific Koh Young Zimmer Biomet Abbott	Consulting Fee
Adnan Hussain Siddiqui	Amnis Therapeutics Apellis Pharmaceuticals, Inc. Boston Scientific Canon Medical Systems USA, Inc. Cerebrotech Medical Systems, Inc. Cerenovus Corindus , Inc. Endostream Medical, Ltd Imperative Care , Inc. Integra LifeSciences Corp., IRRAS Medtronic, Microvention Minnetronix Neuro, Inc. Northwest University DSMB Chair for HEAT Trial , Penumbra, Perflow Medical, Ltd. Q'Apel Medical, Inc., Rapid Medical Rebound Therapeutics Corp., Serenity Medical, Inc. , Silk Road Medical, StimMed Stryker, Three Rivers Medical, Inc., VasSol Viz.ai, Inc. W.L. Gore & Associates	Consulting Fee



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Adnan Hussain Siddiqui	National PI/Steering Committees: Cerenovus NAPA Trial and ARISE II Trial; Medtronic SWIFT PRIME and SWIFT DIRECT Trials MicroVention FRED Trial & CONFIDENCE Study MUSC POSITIVE Trial Penumbra 3D Separator Trial, COMPASS Trial, INVEST Trial;	Contracted Research
Andrew E. Sloan	Monteris Medical, Inc. Surgical Theatre, LLC	Consulting Fee
	Merck Pharmaceuticals Monteris Medical	Contracted Research
Robert J. Spinner	Johnson and Johnson; Mayo Medical Ventures	Consulting Fee
Jeremy Steinberger	Stryker Zimmer Biomet	Consulting Fee
Michael P. Steinmetz	Globus	Consulting Fee
	Zimmer Biomet Elsevier Globus	Royalty
Martina Stippler	Atech	Consulting Fee
Jennifer A. Sweet	Koh Young Inc.	Consulting Fee
Khoi Duc Than	Bioventus, DePuy Synthes, Integrity Implants	Consulting Fee
	LifeNet Health, Globus	Speakers Bureau
Stavropoula I. Tjoumakaris	Microvention, Medtronic	Consulting Fee
Geirmund Unsgård	Sonoclear	Consulting Fee
Juan S. Uribe	NuVasive, Inc. Misonix SI-Bone	Consulting Fee
	NuVasive, Inc.	Ownership Interest - Future Stock Options
	NuVasive, Inc.	Royalty
Anand Veeravagu	Nuvasive, Stryker, Surgical Theater, OsteoCentric	Consulting Fee
Michael A. Vogelbaum	Celgene, Tocagen, Cellinta, Plus Therapeutics	Consulting Fee
	Infuseon Therapeutics	Ownership Interest - Future Stock Options
	Infuseon Therapeutics	Receipt of IP



	Infuseon Therapeutics	Royalty
Babu Guai Welch	Medtronic Stryker	Consulting Fee
	Peter Lazic, Inc	Royalty
Chengyuan Wu	Abbott Boston Scientific Medtronic Neuropace Nevro Microsystems Engineering	Consulting Fee
Brad Evan Zacharia	Medtronic Inc.	Consulting Fee
	NICO Corp.	Speakers Bureau

Faculty

Individual's Name	Name(s) of Ineligible Company	Nature of Relationship(s)
Ellen L. Air	Medtronic, Inc	Contracted Research
	Functional Neuromodulation Stryker	Consulting Fee
Adam S. Arthur	Azimuth, Bendit,Cerebrotech, Endostream Magneto,Marblehead,Mentice,Neurogami Serenity,Synchron,Triad Medical,VIZ.AI	Ownership Interest - Own Stocks
	Balt,Medtronic,Microvention,Penumbra,Siemens	Contracted Research
	Balt, Johnson&Johnson,Medtronic,Microvention, Penumbra, Scienta,Siemens,Stryker	Consulting Fee
Wael Asaad	Site PI, Vivonics trial of non-invasive intracranial pressure monitoring device Site PI, Advance II Trial of fornix DBS for early Alzheimer's Disease Site PI, Astral: Glibenclamide for cerebral contusions PI, Medtronic External Research Grant Program	Contracted Research
Issam A. Awad	StrideBio, Inc.	Contracted Research
	Recursion Pharmaceuticals, Inc.	Consulting Fee
Ali A. Baaj	DePuy Synthes	Consulting Fee
Carlos Antonio Bagley	K2M/Stryker	Royalty
Garni Barkhoudarian	Consultant - Vascular Technologies Inc (VTI) Consultant - Cerevasc (Data Monitoring Committee)	Consulting Fee
Muhammad M. Abd-El-Barr	Spineology,Depuy Synthes, TrackX	Consulting Fee
Joshua B. Bederson	Surgical Theater	Ownership Interest - Own Stocks
	Brainlab.	Contracted Research
Allan J. Belzberg	AstraZeneca	Consulting Fee



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Deborah L. Benzil	BrainLab	Speakers Bureau
Mark H. Bilsky	Globus Medical, Acromed, Depuy Spine	Royalty
Erica Fay Bisson	NView	Ownership Interest - Future Stock Options
	MiRus, Stryker, Medtronic	Consulting Fee
Bradley N. Bohnstedt	Stryker, Penumbra, Nico	Contracted Research
Robert Hitchens Bonow	Butterfly Inc .	Contracted Research
Nicholas M. Boulis	Emory, Cleveland Clinic	Receipt of IP
	BrainTrust Bio	Ownership Interest - Own The Company
	Renew Bio, Coda Bio, Code Runner	Consulting Fee
	Bluerock Bio, Renew Bio, Gene Therapy, Voyager Curative, Clearpoint, Pfizer, Oxford Biomedica Disarm Therapeutics, PTC, Aruna, UCB, Remotor	Consulting Fee
Charles L. Branch	Medtronic	Royalty
	Medtronic Olympus	Consulting Fee
Waleed Brinjikji	Superior Medical Experts	Ownership Interest - Own Stocks
	Microvention, Cerenovus	Consulting Fee
Samuel Robert Browd	Proprioision, Inc.	Receipt of IP
	Proprioision, Inc.	Ownership Interest - Own The Company
	Proprioision, Inc.	Consulting Fee
Justin M. Brown	NuVasive	Royalty
Jeffrey N. Bruce	Theracle, Inc.	Ownership Interest - Future Stock Options
Jan-Karl Burkhardt	Q`Apel Medical Longevity Neuro Solutions	Consulting Fee
Daniel P. Cahill	Merck, Lilly, Boston Pharmaceuticals, sulting	Consulting Fee
Bob S. Carter	Koh Young	Consulting Fee
Victor W. Chang	Globus Medical	Consulting Fee
Veronica Chiang	Monteris medical inc, MRI Interventions	Consulting Fee
Rohan V Chitale	Cerenovus	Contracted Research
	Medtronic	Consulting Fee
Dean Chou	Globus	Royalty
	Globus, Orthofix	Consulting Fee
Christopher Paul Cifarelli	Speaking honorarium for webinar lecture by Carl Zeiss Meditec AG.	Speakers Bureau
Aaron John Clark	Nuvasive	Consulting Fee
Timothy F Cloughesy	Notable Labs, Katmai Pharmaceuticals	Ownership Interest - Own Stocks



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Timothy F Cloughesy	Amgen, Abbvie, DNatrix, Beigene, BMS, AstraZeneca, Kazia, Agios, Boston Biomedical, Deciphera, Tocagen, Orbus, AstraZenica, Karyopharm,	Contracted Research
Timothy F Cloughesy	Katmai Pharmaceuticals, Novartis, QED, Roche, Trizel, Medscape, Bayer, Amgen, Odonate Therapeutics, Pascal Biosciences, Bayer, Del Mar Pharmaceuticals, Tocagen, Karyopharm, GW Pharma, Kiyatec, Abbvie, Boehringer Ingelheim, VBI, Deciphera, VBL, Agios, Merck, Genocera, Celgene, Puma, Lilly, BMS, Cortice, Wellcome Trust, Novocure, Novogen, Boston Biomedical, Sunovion, Human Longevity, Insys, ProNai, Pfizer, Notable labs, Medqia	Consulting Fee
Geoffrey P. Colby	Stryker, MicroVention, Medtronic	Consulting Fee
Daniel Cooke	Siemens Healthineers IschemaView Stryker Neurovascular	Contracted Research
Daniel Cooke	Silk Road Medical Stryker Neurovascular Microvention	Consulting Fee
Domagoj Coric	Spine Wave Globus Medical Stryker Integrity Implants Medtronic RTI Surgical	Royalty
	Spine Wave Premia Spine Pressio Spine 3Spine	Ownership Interest - Own Stocks
	Spine Wave Globus Medical Stryker Integrity Implants Medtronic Nuvasive	Consulting Fee
G. Rees "Rees" Cosgrove	Insightec Inc	Contracted Research
	Insightec Inc Clearpoint Neuro Inc	Consulting Fee
Kenneth M Crandall	Stryker Spine Globus Medical	Consulting Fee
Mick J. Perez-Cruet	Orthofix	Speakers Bureau



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	Thompson MIS now called BoneBac	Ownership Interest - Own Stocks
	Orthofix	Consulting Fee
Daniel Curry	Medtronic, Inc	Consulting Fee
William T. Curry	IMRIS	Consulting Fee
Nader S. Dahdaleh	Depuy Spine	Consulting Fee
Andrew T. Dailey	Zimmer/Biomet AO North America	Speakers Bureau
	Zimmer/Biomet	Contracted Research
	Zimmer/Biomet	Consulting Fee
Sunit Das	Subcortical Surgery Group, Integra, Medexus	Speakers Bureau
	Alkerme, Medicenna	Contracted Research
Jason Davies	medtronic	Speakers Bureau
	medtronic	Consulting Fee
Sanjay S. Dhall	Depuy Synthes Globus Medical	Consulting Fee
Ian G. Dorward	Globus	Consulting Fee
Darin D. Dougherty	Medtronic	Consulting Fee
Rose Du	Grand Rounds	Consulting Fee
Gavin P. Dunn	Immunovalent	Ownership Interest - Own Stock
Gavin P. Dunn	Ziopharm Oncology ImmunoGenesis	Consulting Fee
Sonia Veronica Eden	stryker medical	Consulting Fee
Samer K. Elbabaa	KARL STORZ, Aesculap	Speakers Bureau
Benjamin D. Elder	Medical Advisory Board-InjectSense	Ownership Interest - Future Stock Options
	SI Bone, Stryker	Contracted Research
	Johnson & Johnson	Consulting Fee
W. Jeffrey Elias	Insightec	Contracted Research
	Second Sight	Consulting Fee
Daniel K. Fahim	Carbofix	Ownership Interest - Future Stock Options
	Providence Medical	Contracted Research
	Sea Spine, Aegis Spine, Spine Wave, CTL Amedica	Consulting Fee
Steven M. Falowski	Vertiflex, Medtronic, Abbott, Vertos, Boston Scientific, Saluda, CornerLoc	Speakers Bureau
	Neural Integrative Solutions	Ownership Interest - Own The Company
	Aurora	Ownership Interest - Own Stocks
	Saluda, SPR therapeutics, Thermaquil, SpineThera, Stimgenics, Suture Concepts	Ownership Interest - Future Stock Options



	Vertiflex, Medtronic, Abbott, Biotronik, Biotronik, Aurora Spine, CornerLoc	Contracted Research
	Vertiflex, Medtronic, Abbott, Vertos, Boston Scientific, Saluda, CornerLoc, Stimgenics	Consulting Fee
Richard G. Fessler	DePuy-Synthes, Spinal Elements	Royalty
	In Queue Innovations	Receipt of IP
	In Queue Innovations	Ownership Interest - Own The Company
	DePuy-Synthes Spinal Elements	Consulting Fee
Kevin T. Foley	Medtronic	Royalty
	Medtronic, Nuvasive, Discgenics	Receipt of IP
	Companion Spine, Discgenics, DuraStat, Medtronic, Nuvasive, Practical Navigation/Fusion Robotics, RevBio, SpineWave, Tissue Differentiation Intelligence, Triad Life Sciences, True Digital Surgery, Voya Health	Ownership Interest - Own Stocks
	Medtronic	Consulting Fee
Kelly D. Foote	Medtronic, Boston Scientific, Functional Neuromodulation	Contracted Research
Justin F. Fraser	Penumbra	Speakers Bureau
	Cerelux	Ownership Interest - Own The Company
	Fawkes Biotechnology	Ownership Interest - Own Stocks
	Stream Biomedical	Ownership Interest - Future Stock Options
	Medtronic	Consulting Fee
Kai-Ming G. Fu	Johnson and Johnson, Globus, si bone	Consulting Fee
Aaron A. Cohen-Gadol	Kirwan Surgical Products	Royalty
	Zeiss Meditec	Consulting Fee
Aruna Ganju	ReNetx, Abbvie, Asterias, Mitsubishi Tanabe	Contracted Research
	Abbvie	Consulting Fee
Paul A. Gardner	Peter Lazic, US, Inc.	Royalty
	Renerva	Ownership Interest - Own Stocks
	SPIWay, LLC	Ownership Interest - Future Stock Options
	Gleolan (principal investigator)	Contracted Research
Isabelle M. Germano	Elminda Surgical Theaters	Ownership Interest - Own Stocks
	Brainlab Integra	Consulting Fee



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Jason L. Gerrard	Medtronic, Boston Scientific, Longevity Neuro Solutions	Consulting Fee
Ashley Parham Ghiaseddin	Orbus Therapeutics	Contracted Research
Zoher Ghogawala	Nidus, Inc.	Receipt of IP
David D. Gonda	Medtronic Monteris	Consulting Fee
Wayne Goodman	Biohaven Pharmaceuticals	Consulting Fee
Matthew J Gounis	Anaconda, Alembic Medical, ApicBio, Arsenal Medical, Axovant, Cerenovus, Ceretrieve, Cook Medical, Galaxy Therapeutics, Genuity, Imperative Care, InNeuroCo, Insera, Magneto, Microvention, Medtronic Neurovascular, MIVI Neurosciences, Nagltreiter MDDO, Neurogami, phenox GmbH, Philips Healthcare, Progressive Medical, Rapid Medical, Route 92 Medical, Stryker Neurovascular, Syntheon, ThrombX Medical, Wallaby Medical, the Wyss Institute and Xtract Medical	Contracted Research
	Alembic Medical, Astrocyte Pharmaceuticals, BendIt LLC, Cerenovus, Imperative Care, Medtronic Neurovascular, Mivi Neurosciences, Phenox, Q'Apel Medical, Route 92 Medical, Stryker Neurovascular, Wallaby Medical	Consulting Fee
Ramesh Grandhi	Biogen ,Abbott	Contracted Research
	Biogen - ASTRAL Study Abbott - Abbott iSTAT Study	Contracted Research
	Balt Neurovascular Medtronic Neurovascular Cerenovus Neurovascular Integra	Consulting Fee
Michael W. Groff	Nuvasive Spine Art	Royalty
	Nuvasive Spine Art Bioventus	Consulting Fee
Robert E. Gross	Nia Therapeutics	Ownership Interest - Future Stock Options
	Medtronic,Abbott,Voyager Zimmer Biomet SanBio	Fees For Non CME Services
	Medtronic, Boston Scientific,Abbott Neuropace,MRI Interventions,Voyager	Contracted Research
	Medtronic,Abbott,Voyager,SanBio,Zimmer Biomet	Consulting Fee



Bradley A Gross	Medtronic, Microvention	Consulting Fee
Peter M. Grossi	Pantheon Spine	Royalty
	DePuy Spine	Consulting Fee
Boris Leonardo Pabon Guerreo	Microvention Medtronic	Consulting Fee
Monica Verduzco-Gutierrez	Allergan, Merz, Ipsen, Piramal	Speakers Bureau
Constantinos G. Hadjipanayis	NX Development Corporation	Royalty
Constantinos G. Hadjipanayis	Synaptive Corp. Stryker Corp. Hemerion	Consulting Fee
Michael M. Haglund	Nuvasive	Contracted Research
	Nuvasive, Provident Medical	Consulting Fee
Regis W. Haid	Globus Medical; Medtronic; NuVasive	Royalty
	Globus Medical; Medtronic; NuVasive	Receipt of IP
	NuVasive	Consulting Fee
James S. Harrop	Abbvie, NACTN	Contracted Research
	depuv and globus Abbvie, Spiderwort	Consulting Fee
Jason Scott Hauptman	Medtronic	Consulting Fee
Amy B. Heimberger	Celldex Therapeutics; DNatrix	Royalty
	Celldex Therapeutics; DNatrix	Receipt of IP
	Caris Life Sciences	Ownership Interest - Future Stock Options
	Celularity, Codiak	Contracted Research
	Caris Life Sciences, WCG Oncology	Consulting Fee
Joshua E. Heller	Nuvasive	Royalty
	Spine Biopharma	Ownership Interest - Future Stock Options
	PI PMT Fuse Trial	Contracted Research
	ATEC, Nuvasive, Providence Medical Technology SI Bone, Stryker, Surgalign Zimmer Biomet	Consulting Fee
Jason Heth	Northwest Biotherapeutics	Contracted Research
Leigh R. Hochberg	Neuralink, Paradromics, and Synchron,	Contracted Research
Christoph Paul Hofstetter	Globus	Royalty
	Joimax, Globus, Innovaxis, J&J	Consulting Fee
Langston T. Holly	Medtronic	Royalty
Judy Huang	Thieme Medical Publishing	Royalty
	Canon Imaging	Contracted Research
	medicolegal review	Consulting Fee



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Michael E. Ivan	Medtronic Invenio	Consulting Fee
Maziyar Arya Kalani	CarboFix	Ownership Interest - Future Stock Options
	Medtronic	Fees For Non CME Services
	Medtronic Nuvasive CarboFix	Consulting Fee
Iain H. Kalfas	7D Surgical \$	Fees For Non CME Services
Adam S. Kanter	Nuvasive Zimmer Biomet	Royalty
	Nuvasive	Ownership Interest - Future Stock Options
Michael Gordon Kaplitt	MeiraGTx	Contracted Research
	MeiraGTx	Consulting Fee
Christopher P. Kellner	Siemens, Minnetronix, Penumbra, Cerebrotech, Integra, Viz.AI, Irras, Longevity, Psilobrain	Contracted Research
Daniel F. Kelly	Mizuho, Inc.	Royalty
Alexander A. Khalessi	Neuroptics	Ownership Interest - Own Stocks
	Ospitek, Sensory Data	Ownership Interest - Future Stock Options
	Medtronic, Cerenovus	Consulting Fee
Albert H. Kim	Monteris Medical	Fees For Non CME Services
	Monteris medical	Consulting Fee
Brian H. Kopell	Abbott Neuromodulation Medtronic ClearPoint Neuro	Consulting Fee
Tyler R. Koski	Nuvasive Medtronic	Royalty
	Nuvasive	Ownership Interest - Own Stocks
	Nuvasive Medtronic	Consulting Fee
Ajit A. Krishnaney	Stryker	Consulting Fee
Frederick F. Lang	DNATRIX, Inc	Receipt of IP
David J. Langer	Olympus	Consulting Fee
Paul S. Larson	Abbott Verily ClearPoint Neuro (non-paid consulting)	Consulting Fee
Ian Yu Lee	Medtronic, Monteris	Consulting Fee
Allan D. Levi	Medtronic,	Speakers Bureau



Michael Robert Levitt	Proprio Synchron Cerebrotech	Ownership Interest - Future Stock Options
	Medtronic, Stryker	Contracted Research
	Medtronic, Metis Innovative	Consulting Fee
Gordon Li	Johnson and Johnson/Synthes	Speakers Bureau
	Abbott, Biogen, Biomarin, Gilead, GlaxoSmithKline, J&J, Merk, Pfizer, Regeneron, Stryker	Ownership Interest - Own Stocks
	Novocure, Bristol Myers Squibb	Contracted Research
	Medtronic	Consulting Fee
Michael Lim	Tocagen, BMS, VBI, InCephalo therapeutics, Pyramid Bio, Merck, Arbor, Novocure, Insightec, Biohaven, Sanianoia, Hemispherian, Black Diamond Therapeutics	Receipt of IP
	Tocagen, BMS, VBI, InCephalo therapeutics, Pyramid Bio, Merck, Arbor, Novocure, Insightec, Biohaven, Sanianoia, Hemispherian, Black Diamond Therapeutics	Consulting Fee
David Delmar Limbrick	Microbot Medical, Inc., Medtronic, Inc., Storz, Inc.,	Contracted Research
Andrew S. Little	spiway, stock options	Consulting Fee
James K. Liu	Stryker	Speakers Bureau
Russell R. Lonser	Spark Therapeutics Voyager Therapeutics Merck	Consulting Fee
Demetrius K. Lopes	Three rivers, Qpel, elum, bendit, synchron	Ownership Interest - Future Stock Options
	Medtronic Stryker Siemens	Consulting Fee
Robert G. Louis	BehaVR XR Health	Ownership Interest - Own Stocks
	BehaVR Cleanbox Technologies Invenio Surgical Theater	Ownership Interest - Future Stock Options
	Surgical Theater Medtronic Storz XR Health BehaVR Invenio	Consulting Fee



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Andres M. Lozano	Medtronic, Abbott, Boston Scientific, Insightec, Functional Neuromodulation	Consulting Fee
Yi Lu	Depuy/Synthes	Consulting Fee
L. Dade Lunsford	AB Elekta, Stockholm Sweden	Ownership Interest - Own Stocks
	Insightec DSMB	Consulting Fee
André Machado	Enspire and Cardionomics	Receipt of IP
	Abbott and Enspire	Contracted Research
	Abbott	Consulting Fee
Luke Macyszyn	Theseus AI	Ownership Interest - Future Stock Options
	Depuy Spine, BrainLab, Zimmer Biomet, Orthofix	Consulting Fee
Mark Alexander Mahan	joimax Inc	Consulting Fee
Hani Malone	Viseon	Ownership Interest - Future Stock Options
Hani Malone	Seaspine Nuvasive Carevature Viseon	Consulting Fee
Geoffrey T. Manley	Abbott	Contracted Research
Kim Margolin	same entities as in the "consulting fee" box	Fees For Non CME Services
Kim Margolin	ImaginAb Checkmate Oncosec Werewolf Xilio Tentarix	Consulting Fee
Neil A. Martin	Surgical Theater, Truth MD/MedFax, Seven Bridges Genomics, Intuitive Surgical	Ownership Interest - Own Stocks
	1. Seven Bridges Genomics	Consulting Fee
Justin Robert Mascitelli	Penumbra and PMI.	Fees For Non-CME Services
	Stryker	Consulting Fee
Christopher Michael Maulucci	Globus medical	Speakers Bureau
		Consulting Fee
Helen S. Mayberg	Abbott Labs	Receipt of IP
		Consulting Fee
Michael William McDermott	Stryker Diende Medical	Consulting Fee
Matthew J. McGirt	MiRus Medical	Consulting Fee
Guy M. McKhann	Koh Young Inc	Consulting Fee
Juan Carlos Fernandez-Miranda	KLS Martin	Royalty
	Integra	Consulting Fee



J D. Mocco	Synchron,Corindus,Cerebrotech,Endostream Viseon,Imperative Care,RIST,Synchron Viz.ai,Perflow,CVAid ,Echovate,Rebound BlinkTBI,Serenity,Cardinal Consulting,NTI Radical	Ownership Interest - Own Stocks
Aliasgar V Moiyadi	Medtronics	Speakers Bureau
	BK Medical Brainlab	Consulting Fee
Jennifer A. Moliterno	BK Ultrasound	Consulting Fee
Jacques J. Morcos	KOGENT	Ownership Interest - Own Stocks
	LEICA,STRYKER	Consulting Fee
Praveen V. Mummaneni	Depuy Spine; Spinger Publishers, Thieme Publishers, Depuy Spine	Royalty
	AO Spine; Spineart	Receipt of IP
	Depuy. Stryker, Globus	Consulting Fee
Brian V. Nahed	Merck, BK	Speakers Bureau
	React Neuro	Ownership Interest - Future Stock Options
	React Neuro, Robeaute	Consulting Fee
Peter Nakaji	AcuMed OsteoMed	Royalty
	AcuMed OsteoMed	Receipt of IP
Edjah K. Nduom	Bristol-Myers Squibb	Contracted Research
Joseph Samir Neimat	Abbott Inc, Monteris Inc, Medtronic Inc.	Consulting Fee
Laura Benjamin Ngwenya	Biogen	Contracted Research
Hideho Okada	Tmunity, Inc. Stemline, Inc. Novartis Pharma	Royalty
	Agios Pharmaceuticals	Contracted Research
	Bristol-Myers Squibb Agios Pharmaceuticals INC Research, LLC LifeSci Capital, LLC	Consulting Fee
David O. Okonkwo	NuVasive ZimmerBiomet	Royalty
Mark E. Oppenlander	Globus Medical Bioventus Surgical	Consulting Fee
Joshua William Osbun	Microvention, Inc	Contracted Research



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Joshua William Osburn	MicroVention, Inc Terumo, Inc Medtronic, Inc	Consulting Fee
Rod J. Oskouian	Stryker	Royalty
	Stryker	Consulting Fee
John E. O'Toole	Globus Medical	Royalty
	Globus Medical	Consulting Fee
Thomas Oxley	Synchron Inc	Salary/Employee
Paul Park	Globus	Royalty
	Globus,Depuy	Fees For Non CME Services
	Globus,NuVasive	Consulting Fee
Ian F. Parney	Merck Pharmaceuticals	Contracted Research
	AbbVie Pharmaceuticals	Consulting Fee
Jogi V. Pattisapu	Integra Neurosciences and Johnson & Johnson	Consulting Fee
Brenton Henry Pennicooke	Pacira Biosciences, Inc. McKinsey & Company	Consulting Fee
Erika A. Petersen	SynerFuse	Ownership Interest - Future Stock Options
	Nevro, Neuros Medical, ReNeuron, Saluda, SPR	Contracted Research
	Abbott, Medtronic, Nevro, Vertos, Saluda	Consulting Fee
Laurent Pierot	Microvention	Consulting Fee
Julie G. Pilitsis	AIM Medical Robotics, Karuna Labs	Ownership Interest - Own Stocks
	Medtronic, Boston Scientific, Abbott, Nevro	Contracted Research
	Boston Scientific, Nevro, Medtronic, Saluda and Abbott	Consulting Fee
John Pollina	Medtronic, Atec	Speakers Bureau
	Atec	Royalty
		Ownership Interest - Own Stocks
		Ownership Interest - Future Stock Options
	Atec, Medtronic	Contracted Research
		Consulting Fee
Francisco A. Ponce	Boston Scientific Medtronic	Consulting Fee
Randall W. Porter	Globus Medical	Speakers Bureau
Randall W. Porter	The Medical Memory Globus Excelcius Robot	Receipt of IP
	Globus Medical, Stryker, ATEC	Consulting Fee
Eric A. Potts	Medtronic	Royalty
	Medtronic	Consulting Fee
Nader Pouratian	Abbott	Consulting Fee



Francesco Prada	In.Tra.	Receipt of IP
		Ownership Interest- Own Stocks
Gustavo Pradilla	NICO Corporation	Contracted Research
	Stryker	Consulting Fee
Daniel M. Prevedello	Storz	Speakers Bureau
	ACE Medical,Mizuho	Royalty
	KLS-Martin	Receipt of IP
	Mizuho	Fees For Non CME Services
	Integra,Storz	Contracted Research
	Stryker, Integra	Consulting Fee
Jeffrey Steven Raskin	Medtronic	Consulting Fee
Ahmed M.T. Raslan	Precisionneurotek	Receipt of IP
Ahmed M.T. Raslan	Biotronik Abbott	Consulting Fee
John K. Ratliff	Stryker, Medtronic, Nuvasive	Consulting Fee
Wilson Zachary Ray	Globus Medical, Depuy Synthes, Nuvasive	Consulting Fee
Pablo F. Recinos	Stryker	Consulting Fee
Daniel K. Resnick	NIDUS	Ownership Interest - Future Stock Options
Robert Mark Richardson	NeuroPace, Medtronic, Neurocrine, Voyager, Setpoint, AskBio	Consulting Fee
Gerald ("Rusty") E. Rodts	Globus Medical, Medtronic	Royalty
John David Rolston	Medtronic	Consulting Fee
Steven N. Roper	Medtronic	Consulting Fee
Alexander E. Ropper	Stryker. Globus Medical. Mizuho OSI. Neuromonitoring Associates, LLC	Consulting Fee
William S. Rosenberg	Nevro	Speakers Bureau
		Consulting Fee
Mark L. Rosenblum	NICO	Ownership Interest - Future Stock Options
Joshua M. Rosenow	Boston Scientific Neuromodulation, SPR	Contracted Research
	Boston Scientific Neuromodulation	Consulting Fee
Judith Rosman	RosmanSearch, Inc	Consulting Fee
Jonathan Russin	Zeiss	Contracted Research
Rajiv Saigal	Globus,Johnson and Johnson	Consulting Fee
Uzma Samadani	Integra, Medtronic, Abbott	Speakers Bureau
	Ocologica	Ownership Interest - Own The Company
	Integra, Medtronic, Abbott	Consulting Fee



John H. Sampson	Celldex Therapeutics Annias Immunotherapeutics	Receipt of IP
	Annias Immunotherapeutics Istari Oncology Neuronium Immunomic Therapeutics Insera Health,	Ownership Interest - Own Stocks
	Medicenna Annias Immunotherapeutics Insera Health	Consulting Fee
Charles A. Sansur	Stryker, Nuvasive	Royalty
	Nuvasive	Consulting Fee
Alan M. Scarrow	Medtronic	Consulting Fee
Clemens M. Schirmer	Principal Investigator ENRICH, MIND, INVEST trials	Contracted Research
Jason M. Schwalb	Medtronic, Neuros, SetPoint	Contracted Research
Theodore H. Schwartz	RPW Technology	Ownership Interest - Own The Company
	MIVI Neuroscience Serenity Medical Inc Neurotechnology Investors LLC Endostream Medical	Ownership Interest - Own Stocks
	Integra RPW Technology Elliquence NX Development	Consulting Fee
Daniel M. Sciubba	Medtronic, Depuy-Synthes, Stryker, baxter	Consulting Fee
Laligam N. Sekhar	Spisurgical, Inc.	Ownership Interest - Own Stocks
Christopher I. Shaffrey	Medtronic, NuVasive, Zimmer Biomet	Royalty
	Medtronic, NuVasive, Zimmer Biomet SI Bone	Receipt of IP
	NuVasive	Ownership Interest - Future Stock Options
	Siemens, SI Bone, Medtronic	Consulting Fee
Mitesh Vipin Shah	Enrich Trial	Contracted Research
	Synaptive and Stryker	Consulting Fee
Akanksha Sharma	Blue Earth Diagnostics; Incyte; Oblato; xCures; Biocept; Bayer; EpicentrX; Acrotech; Novocure; CNS pharmaceuticals; Eli Lilly	Contracted Research



Sameer A. Sheth	Boston Scientific Koh Young Zimmer Biomet Abbott Neuropace	Consulting Fee
John H. Shin	ATEC Carbofix Depuy Medtronic Nuvasive Stryker	Consulting Fee
Adnan Hussain Siddiqui	National PI/Steering Committees: Cerenovus NAPA Trial and ARISE II Trial; Medtronic SWIFT PRIME and SWIFT DIRECT Trials MicroVention FRED Trial & CONFIDENCE Study MUSC POSITIVE Trial Penumbra 3D Separator Trial, COMPASS Trial, INVEST Trial;	Contracted Research
	Amnis Therapeutics Apellis Pharmaceuticals, Inc. Boston Scientific Canon Medical Systems USA, Inc. Cerebrotech Medical Systems, Inc. Cerenovus ,Corindus , Inc. Endostream Medical, Ltd Imperative Care , Inc. Integra LifeSciences Corp. IRRAS,Medtronic,MicroVention Minnetronix Neuro, Inc. Northwest University DSMB Chair for HEAT Trial Penumbra,Perflow Medical, Ltd. Q'Apel Medical, Inc.,Rapid Medical Rebound Therapeutics Corp.,Serenity Medical, Inc. Silk Road Medical StimMed,Stryker;Three Rivers Medical, Inc. VasSol Viz.ai, Inc. W.L . Gore & Associates	Consulting Fee
Justin A Singer	Stryker, Penumbra, Ceronovus Nico, Medtronic	Speakers Bureau
	Stryker, Medtronic	Consulting Fee
Walavan Sivakumar	Integra, Education Honorarium Zeiss, Education Honorarium	Speakers Bureau
	Stryker, consulting	Consulting Fee
Konstantin V. Slavin	Vycor medical, Higgs Boson, Neuramodix, Stimwave, Thermaquil	Ownership Interest - Future Stock Options



	Medtronic, Abbott, Boston Scientific, Neuros	Contracted Research
	Medtronic, Abbott, Boston Scientific, MESI, Stimwave, Karger, Wiley	Consulting Fee
Justin S. Smith	Zimmer Biomet, NuVasive, Thieme	Royalty
	Alphatec, NuVasive	Ownership Interest - Own Stocks
	Carlsmed	Ownership Interest - Future Stock Options
	DePuy Synthes/ISSGF, AOSpine, NuVasive	Contracted Research
	Zimmer Biomet, Stryker, Nuvasive, DePuy Synthes	Consulting Fee
Michael L. Smith	Depuy Synthes	Consulting Fee
Matthew D. Smyth	Monteris Medical	Consulting Fee
Laura A. Snyder	Biogen	Contracted Research
	Globus Medical Medtronic	Consulting Fee
Adam M. Sonabend	Provisional patent on use of ultrasound for delivery of paclitaxel-bound to albumin to the brain	Receipt of IP
	BMS, CarThera	Contracted Research
Robert J. Spinner	Johnson and Johnson, Mayo Medical Ventures	Consulting Fee
Gary K. Steinberg	Peter Lasic, US	Royalty
	NeuroSave, Audaxion Therapeutics	Ownership Interest - Future Stock Options
	SanBio, Zeiss, Surgical Theater	Consulting Fee
Michael P. Steinmetz	Zimmer Biomet, Elsevier, Globus	Royalty
	Globus	Consulting Fee
Martina Stippler	Atech	Consulting Fee
Scellig S. D. Stone	Microbot Medical Alcyone LifeSciences	Consulting Fee
Walter Stummer	NXDC, magforce, medac, SBI Ala Pharma	Consulting Fee
Vishad V Sukul	Boston Scientific	Consulting Fee
Jennifer A. Sweet	Koh Young Inc.	Consulting Fee
Viviane S. Tabar	BlueRock Therapeutics	Consulting Fee
Lee A. Tan	Medtronic, Stryker/K2M, Globus, DePuy, Integrity Implants	Consulting Fee
Philipp Taussky	Medtronic Stryker Neurovascular Cerenovus	Consulting Fee
Charles Teo	Aesculap	Fees For Non CME Services
Khoi Duc Than	LifeNet Health, Globus	Speakers Bureau
	Bioventus, DePuy Synthes, Integrity Implants	Consulting Fee
Nicholas Theodore	Globus Medical Depuy Synthes	Royalty



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	Globus Medical Depuy Synthes	Receipt of IP
Nicholas Theodore	Globus Medical	Ownership Interest - Own Stocks
	Globus Medical	Consulting Fee
Stavropoula I. Tjournakaris	Microvention, Medtronic	Consulting Fee
Vincent C. Traynelis	Medtronic	Royalty
Vincent C. Traynelis	Medtronic, NuVasive	Consulting Fee
Eve C. Tsai	Abbvie	Contracted Research
	Spiderwort, Integra	Consulting Fee
Jay D. Turner	NuVasive, SeaSpine	Contracted Research
	NuVasive, SeaSpine, ATEC	Consulting Fee
Michael Tymianski	NoNO Inc.	Salary/Employee
	NoNO Inc.	Ownership Interest - Own Stocks
Juan S. Uribe	NuVasive, Inc.	Royalty
	NuVasive, Inc.	Ownership Interest - Future Stock Options
	NuVasive, Inc., Misonix, SI-Bone	Consulting Fee
Ian Valerio	Axogen Inc and Integra Lifesciences Inc	Speakers Bureau
Anand Veeravagu	Nuvasive, Stryker, Surgical Theater, OsteoCentric	Consulting Fee
Michael A. Vogelbaum	Infuseon Therapeutics	Royalty
		Receipt of IP
	Celgene, Tocagen, Cellinta, Plus Therapeutics	Ownership Interest - Future Stock Options
Rishi Kumar Wadhwa	Stryker Spine, SpineArt USA	Consulting Fee
Ajay K. Wakhloo	Stryker NV Medtronic	Royalty
	Stryker NV, Cerenovus JNJ	Consulting Fee
Jeffrey Wang	Zimmer Biomet Seaspine DePuy Synthes	Royalty
	bone biologics electrocore surgitech	Ownership Interest - Own Stocks
	pearlDiver	Ownership Interest - Future Stock Options
Michael Y. Wang	Depuy-Synthes Spine Medtronic Stryker Spineology	Consulting Fee



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	Depuy-Synthes Spine	Royalty
Doris D. Wang	Boston Scientific Iota	Consulting Fee
Babu Guai Welch	Peter Lazic, Inc	Royalty
	Medtronic Stryker	Consulting Fee
Robert G. Whitmore	Depuy Synthes Spine	Consulting Fee
Brian Jeremy Williams	Monteris Medical, Novocure	Consulting Fee
Jon Timothy Willie	Medtronic, Inc. Neuropace, Inc. Clearpoint Neuro, Inc.	Speakers Bureau
	Medtronic, Inc. Neuropace, Inc. MicroTransponder, Inc.	Contracted Research
Thomas J. Wilson	AxoGen Inc.	Consulting Fee
Richard N. Wohns	Medtronic SeaSpine Alphatec	Consulting Fee
David S. Xu	NuVasive	Consulting Fee
Isaac Yang	Baxter	Consulting Fee
Chun-Po Yen	Consultant: Nuvasive	Consulting Fee
A. Samy K. Youssef	Mizuho	Royalty
	Stryker	Consulting Fee
Gabriel Zada	Elekta Nico	Speakers Bureau
	Stryker Rebound Therapeutics	Consulting Fee
Corinna Clio Zygourakis	Stryker	Contracted Research
Corinna Clio Zygourakis	Stryker 7D	Consulting Fee

Agenda and faculty subject to change

As of October 15, 2021



EDUCATION GRANTS & IN-KIND EQUIPMENT

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Name of Commercial Supporter	In-Kind	Financial Educational Grant
Aesculap	Durable Equipment	No
AstraZeneca	No	Yes
Boston Scientific	Durable Equipment	Yes
BrainLab	Durable Equipment	No
Cerenovus	No	Yes
Cerenovus	Durable Equipment	No
ClearPoint Neuro	Durable Equipment	Yes
Elekta	Durable Equipment	No
FHC	Durable Equipment	No
Globus Medical	No	Yes
Globus Medical	Durable Equipment	No
Integra LifeSciences	Durable Equipment	Yes
Karl Storz Endoscopy	Durable Equipment	Yes
Karl Storz	Durable Equipment	Yes
Medtronic	Durable Equipment / Disposable Supplies	Yes
Moberg Research	Durable Equipment	No
Monteris Medical	Durable Equipment	Yes
MicroVention	Durable Equipment	Yes
Mizuho America	Durable Equipment	No
NeuroPace	No	Yes
Novocure	No	Yes
Olympus America	Durable Equipment	Yes
Penumbra	No	Yes
Surgical Theater	Durable Equipment	No
Synaptive Medical	Durable Equipment	No



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